2016-2528, -2529, -2530

United States Court of Appeals for the Federal Circuit

CRONOS TECHNOLOGIES, LLC,

Plaintiff – Appellant,

v.

EXPEDIA, INC., PRICELINE.COM INCORPORATED, nka The Priceline Group Inc., PRICELINE.COM LLC, TRAVELOCITY.COM LP,

Defendants – Appellees.

Appeals from the United States District Court for the District of Delaware in Case Nos. 1:13-cv-01538-LPS, 1:13-cv-01541-LPS, and 1:13-cv-01544-LPS, Chief Judge Leonard P. Stark

CORRECTED APPELLANT'S OPENING BRIEF

Dated: December 1, 2016

Brian D. Ledahl
bledahl@raklaw.com
Larry C. Russ
lruss@raklaw.com
Paul A. Kroeger
pkroeger@raklaw.com
RUSS AUGUST & KABAT
12424 Wilshire Boulevard, 12th Floor
Los Angeles, California 90025
Telephone: (310) 826-7474
Facsimile: (310) 826-6991

Counsel for Plaintiff-Appellant Cronos Technologies, LLC

CERTIFICATE OF INTEREST

Counsel for Plaintiff-Appellant Cronos Technologies, LLC certifies the following:

1. The full name of the parties represented by me: Cronos Technologies, LLC.

2. The name of the real parties in interest represented by me: Not Applicable.

3. Cronos Technologies, LLC does not have any parent corporations and no publicly held company owns 10 percent or more of stock in Cronos Technologies, LLC.

4. The names of all law firms and the partners or associates that appeared for Cronos Technologies, LLC in the trial court, or are expected to appear in this Court are: Larry C. Russ, Brian D. Ledahl, Paul A. Kroeger, Shani Tutt (now Shani Williams), Adam S.D. Hoffman, and Jay C. Chung of Russ August & Kabat; Richard D. Kirk, Stephen A. Brauerman, and Sara E. Bussiere of Bayard, P.A.

Dated: December 1, 2016

Brian D. Ledahl
bledahl@raklaw.com
Larry C. Russ
lruss@raklaw.com
Paul A. Kroeger
pkroeger@raklaw.com
RUSS AUGUST & KABAT
12424 Wilshire Boulevard, 12th Floor

Los Angeles, California 90025
Telephone: (310) 826-7474
Facsimile: (310) 826-6991

Counsel for Plaintiff-Appellant Cronos Technologies, LLC

TABLE OF CONTENTS

TABLE OF AUTHORITIES

CASES

STATUTES

RULES

APPELLANT'S OPENING BRIEF

I. STATEMENT OF RELATED CASES

Pursuant to Federal Circuit Rule 47.5, Appellant states as follows:

(a) No other appeals in or from the same civil actions in the lower court were previously before this or any other appellate court.

(b) There are no other cases pending in this or any other court that will directly affect or be directly affected by this Court's decision in the pending appeal.

II. JURISDICTIONAL STATEMENT

This appeal arises out of a case that concerns claims of infringement of U.S. Patent No. 5,664,110 (the "'110 patent"). The District Court has jurisdiction under 28 U.S.C. §§ 1331, 1338, 2201 and 2202. The Federal Circuit has jurisdiction pursuant to 28 U.S.C. §§ 1295(a)(1).

The District Court entered a Memorandum Opinion and Supplemental Claim Construction Order construing certain terms of the asserted patent claims on July 22, 2016. On August 15, 2016, the District Court entered an order granting Defendants-Appellees' Joint Motion for Summary Judgment of Noninfringement. Final judgment was entered on August 18, 2016. Cronos Technologies, LLC ("Cronos") timely filed its notice of appeal on August 18, 2016.

This appeal is from a final order or judgment that disposes of all parties' claims.

III. STATEMENT OF THE ISSUES

(1) Whether the District Court's July 22, 2016 Supplemental Claim Construction Order (Appx027) was correct; and

(2) Whether the District Court's August 15, 2016 Order granting summary judgment of noninfringement in favor of Defendants (Appx003), applying the claim constructions found in its Supplemental Claim Construction Order, should be reversed.

IV. STATEMENT OF THE CASE

A. The '110 Patent

The '110 patent is entitled "Remote Ordering System." The application for the '110 patent was filed on December 8, 1994, and the patent issued on September 2, 1997. Appx063.

In the early 1990s, when online shopping was just emerging, the inventors of the '110 patent conceived a novel remote ordering system that allowed customers to create an order list, and to review and edit a user-interpretable display of the contents of that order list using a device such as a computer or mobile phone. The system could retain information about previous orders and selectively update the information, for example to provide current availability and price information of items on the list. At the time, prior art remote ordering systems provided some form of scanner associated with a remote interface for reading coded product

identification information found on the product packaging. *Id.* at 1:20-35. However, these prior art systems lacked the ability to perform several of the functions of the claimed inventions, including the ability to include items from multiple merchants, the ability to create lists with the user-desired information, and to obtain current availability and pricing of the products on the list. *Id.*

The '110 patent discloses several embodiments of the claimed "remote ordering terminal," which, as illustrated in Figure 1, includes one or more user devices (i.e., remote ordering terminals), a central computer, and one or more merchant databases. *Id.* at 2:52-58. In one embodiment, illustrated in Figure 2, the user uses an optical scanning wand (data entry device) to input codes for the desired products. *Id.* at 3:7-15. These product codes are associated with user-discernable descriptions of the selected products, which can include, for example, the manufacturer, item name or description, unit size, unit cost and/or pictorial representations of the product. *Id.* at 3:58-62; 4:34-36. The input product codes are "checked against" a database, and if user-discernable information corresponding to the input code exists within the database, this user-discernable information is added to the order list and displayed the user. *Id.* at 4:23-333. Once the user has completed the order list, the user can transmit the order to the merchant via a command entry device such as a touchscreen, keyboard, or mouse, and product information from the merchant database (e.g., availability and pricing) is relayed back to and displayed on

the user device. *Id.* at 4:40-58; 5:9-15. As expressly noted in the specification, "the same device can be used to perform the functions of both the data entry device and the command entry device." *Id.* at 4:58-60.

In another embodiment, illustrated in Figures 3 through 5 (reproduced below), the user can add items to the order list (i.e., input product codes) by selecting (such as via mouse or touchscreen) the desired products from a list of products presented by the system. For example, Figure 4 shows that the user "has chosen two items from [the] option list of 68 of perishables, including 'FRESH SALMON' and 'BANANAS' as indicated by an 'X' in icons 66 associated with these items." *Id.* at 10:7-12. "Once the user is satisfied with the selections made from this option list 68, the 'OK' icon 70 is activated and the chosen items are added to the … order list, as shown in Fig. 5." *Id.* at 10:12-17. When the order list is complete, the user can submit the order to the merchant by selecting the "ORDER" icon. *Id.* at 10:18-20.

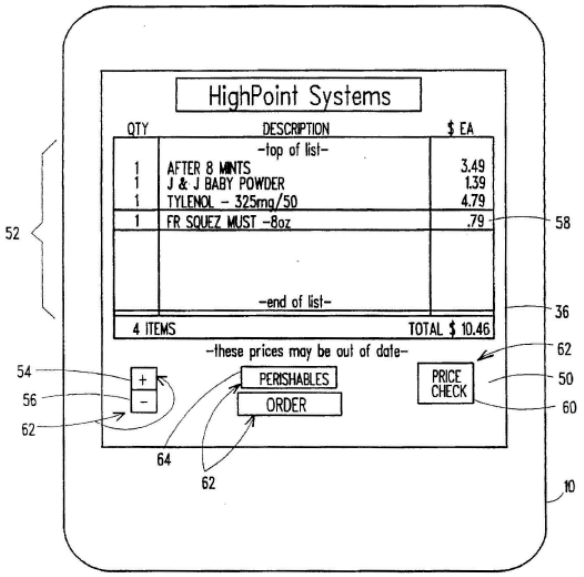


FIG. 3

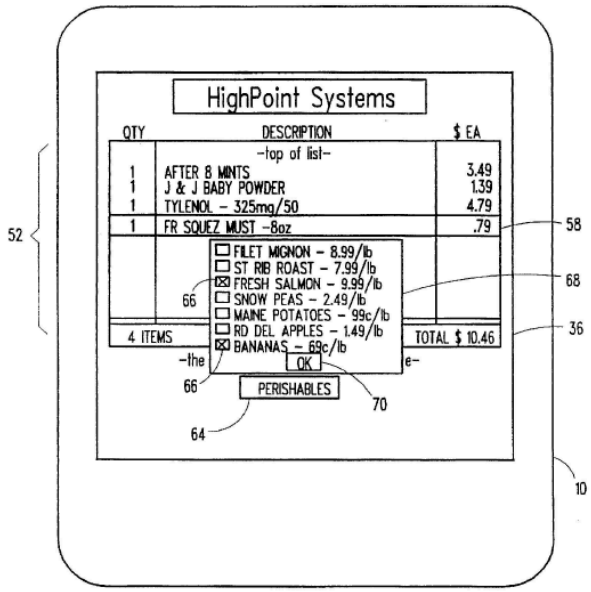


FIG. 4

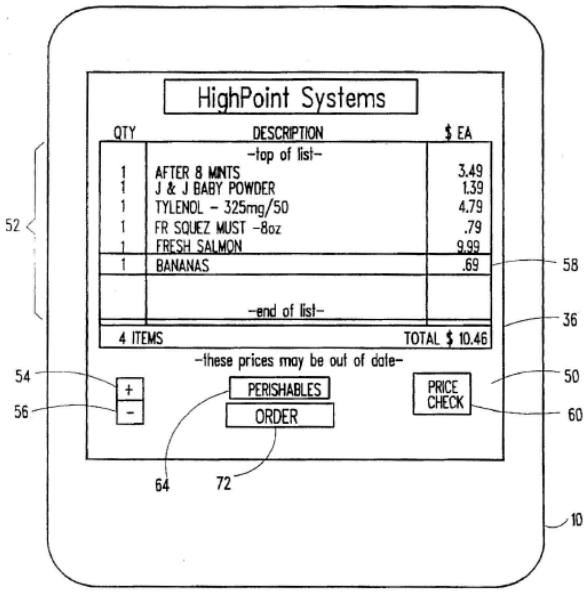


FIG. 5

Cronos, the owner of the patent-in-suit, filed complaints against Defendants-Appellees Expedia, Inc., Priceline.com Inc. (n/k/a The Priceline Group Inc.), Priceline.com LLC, and Travelocity.com LP's (n/k/a TVL LP) (collectively, "Defendants") for their infringing use of this technology. In particular, Cronos

asserts that Defendants' respective travel booking websites, expedia.com, priceline.com, and travelocity.com, infringe claims 1, 3, 8, 10, 14, 16, 17, 22, 26, 30, 31, 41, and 42 of the '110 patent. Claims 1, 3, 8, 10, 14, 16, and 17 are apparatus claims; claims 22, 26, 30, 31, 41, and 42 are method claims. The two independent claims at issue, claims 1 and 22, read as follows:

> Claim 1. A remote ordering terminal for providing at least one list of at least one item or group of items to a remotely located order processing system associated with one or more merchants on each of a plurality of occasions, each item or group of items having an **item code** associated therewith, said remote ordering terminal comprising:
>
> [a] user and/or merchant identifier means;
>
> [b] at least one **data entry device for providing said terminal with said item associated item codes** and with data from said user and/or merchant identifier means;
>
> [c] a database unit providing a user-specific database including user-discernable item data associated with item codes for user-selected items or groups of items;
>
> [d] memory to provide storage for said user-specific database, said memory in communication with said at least one data entry device for storing said at least one list;

[e] communication means for associating said memory and said order processing system upon user command for remotely accessing said order processing system over a multi-user network, for transmitting said at least one list to said order processing system using said data from said user and/or merchant identifier means, and for receiving new and/or replacement user-discernable item data from said order processing system during association of said memory and said order processing system, said new and/or replacement user-discernable item data corresponding only to said at least one item or group of items of said at least one list;

[f] a message display portion in communication with said memory and said user-specific database for displaying order pertinent information including said user-discernable item data from said memory; and

[g] at least one command entry device responsive to user selection of items from said order pertinent information for assembling said at least one list and for enabling said user command, resulting in said transmitting of said at least one list to said order processing system,

[h] wherein said at least one list is comprised of an order to be processed by said order processing system, or a provisional order list transmitted to said order processing system, transmission of either resulting in on-

demand receipt of said new and/or replacement user-discernable item data within said user-specific database for said at least one item or group of items.

Claim 22. A method for remote ordering at least one desired item by a user from one of a plurality of merchants using a system having a user device, a central computer, one of a plurality of merchant databases, and a communications link including a multi-user network, said at least one desired item having a unique **identifying code** associated therewith, the method comprising:

[a] storing for a plurality of user-specific items, in an identifier database accessible at said user device for user perception at said user device, a user-cognizable identifier of said at least one item corresponding to said identifying code;

[b] **user inputting said identifying code** corresponding to said at least one desired item into said user device by machine recognition of said user input identifying code;

[c] accumulating from said identifier database selected ones of said user-cognizable identifiers corresponding to said input identifying codes in at least one list of desired items;

[d] selectively associating a transaction identifier having user and/or merchant identifications with said user device to identify a selected merchant database and/or to identify said user to a selected merchant database;

[e] commanding said user device to establish remote communication between said user device and said selected merchant database corresponding to said merchant identification through said central computer over said communications link including said multi-user network;

[f] interactively updating only said selected one of said user-cognizable identifiers in said identifier database of user-specific items with current information provided by said merchant database over said communications link in response to a user action at said user device, said user action including;

[g] the communication of a provisional list of desired items transmitted to said selected merchant database for the purpose of providing said interactive updating, or the communication of an order list of desired items transmitted to said selected merchant database for the purpose of providing said interactive updating and remote ordering said desired items comprising said order list; and

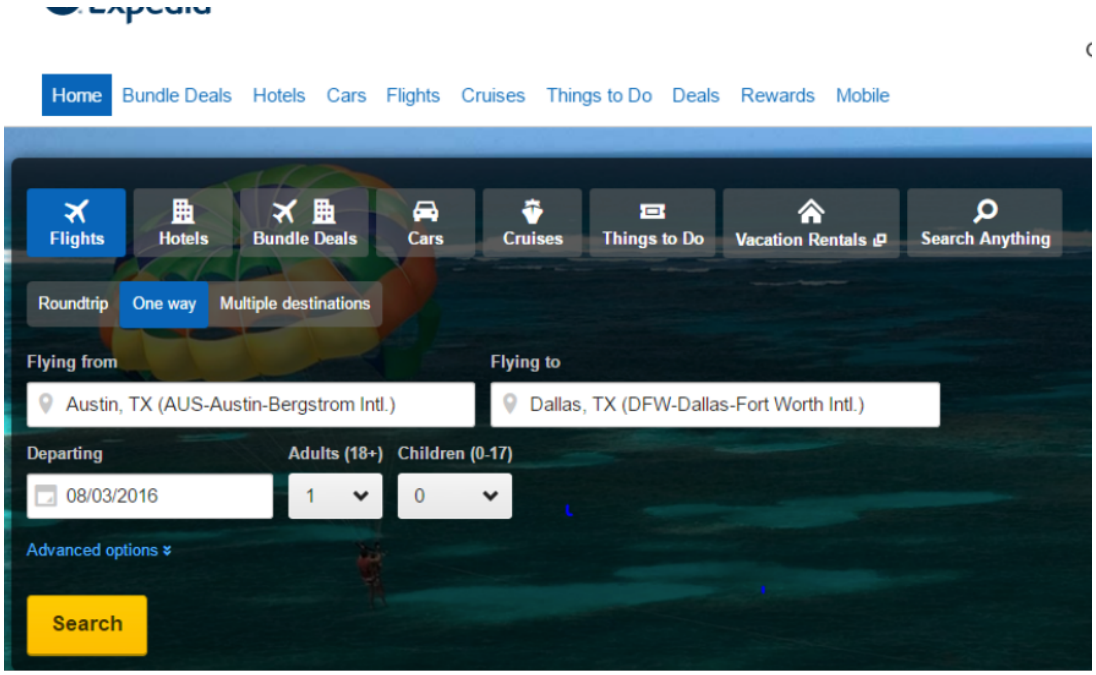
[h] passing transaction specific information over said communications link including said identifying codes between said user device and said selected merchant database.

The central issues in this appeal concern the District Court's construction of the bolded language above (and its grant of summary judgment based thereon): "item code" and "data entry device for providing said terminal with said item associated item codes" from claim 1; "identifying code" and "user inputting said identifying code" from claim 22.

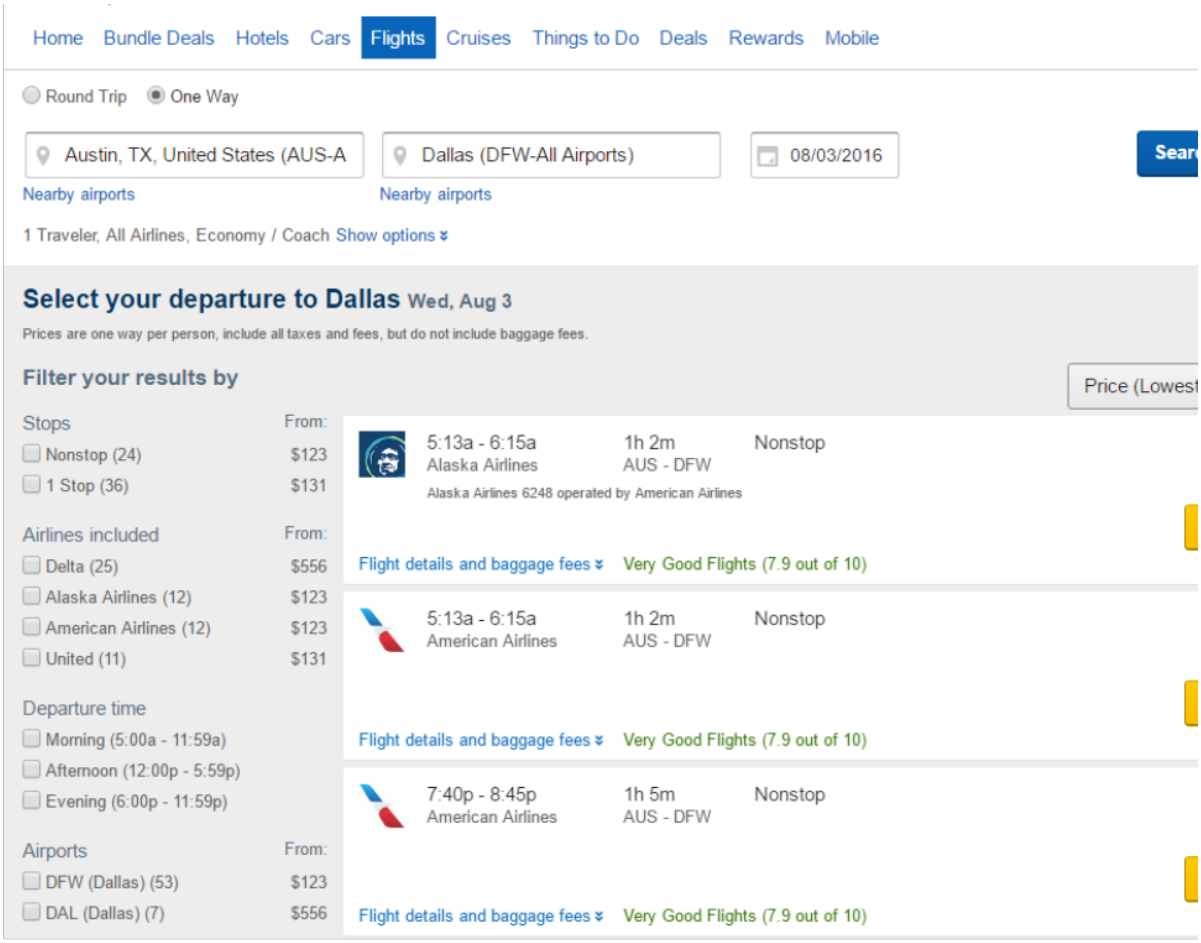
B. Defendants' Accused Systems

Defendants' accused travel-booking websites allow customers to use a device such as a computer or smart phone (i.e., remote ordering terminal) to search for and purchase/book flight, hotel, and/or car rental reservations. When customers arrive at the landing page or entry screen for each of the Defendants' accused websites, they are presented with a set of search fields that allows them to enter information corresponding to the product they wish to purchase. For example, when a customer visits expedia.com to purchase a flight, he or she is required to enter information (i.e., by typing with a keyboard or touch screen) into the search fields identifying the departure city, arrival city, and dates for the departure and return. Likewise, if a customer wishes to purchase a night in a hotel or a car rental reservation, the user is

required to fill in search fields identifying the location of the hotel or car rental pickup, and the dates for which a reservation is desired. *See* Appx4626.



Id. After the user inputs this information, the accused systems return a list of available flights/hotels/car rentals associated with the input search information (the group of purchasable products). The user can then select the desired product by clicking the "Select" icon/hyperlink with his or her mouse.



Id. The user can book the selected flight by inputting various information and making the appropriate selections on subsequent screens. The relevant functionality of the other accused websites, travelocity.com and priceline.com, is substantially the same as described above. *Id.* at ¶ 4.

C. Procedural History

Cronos filed patent infringement complaints against Defendants in the District of Delaware in September 2013. On April 13, 2015, the District Court held a claim construction hearing. On June 8, 2015, the District Court entered a Memorandum Opinion and Claim Construction Order. Appx029, Appx058. At no time during the

claim construction proceedings did any party request construction of the terms "item code" or "identifying code," and, accordingly, the District Court's June 8, 2015 order did not construe these terms. *See id.*

On March 15, 2016, Defendants filed motions for summary judgment and *Daubert* motions. Appx918. In their summary judgment motion, Defendants argued that they are entitled to summary judgment of noninfringement because the accused systems do not meet the "item code" and "unique identifying code" limitations of the asserted claims. Appx1666-1668. However, Defendants' arguments were based on an incorrect interpretation of the opinion of Cronos's technical expert Dr. V. Thomas Rhyne.[1] Defendants also improperly relied on purported limitations on the terms "item code" and "identifying code" inconsistent with the plain and ordinary meaning of these terms as well as the language of the '110 patent itself, despite the fact that these terms had not been construed and Defendants never requested that these terms be construed. *See* Appx3888-3894.

On May 24, 2016, the District Court held a hearing on Defendants' motion for summary judgment. On the same day, the District Court, in light of the newly raised issues regarding these terms, entered an order directing the parties to submit

[1] Dr. Rhyne opined that the information input by the user into the search fields on Defendants' websites constitutes an item code. But in their motion for summary judgment, Defendants incorrectly argued that Dr. Rhyne's opinion identified the search results as the item codes, which are "merely descriptions of the product" and "not entered by the 'data entry device.'" *See* Appx1668, Appx3891-3894.

supplemental briefing regarding construction of "item code" and "identifying code" (the parties do not dispute that these terms should be given the same construction), and the user input limitations of claims 1 and 22. Appx4041. The parties submitted opening supplemental claim construction briefs, and responses thereto, on June 3 and June 10, 2016, respectively. Appx4044, Appx4263, Appx4271, Appx4284.

On July 22, 2016, the District Court entered a memorandum opinion and order construing the terms at issue as follows:

- "**item code**" and "**identifying code**" in claims 1 and 22, respectively, were construed to mean "a code corresponding to a purchasable product, or group of products, that is distinct from the user-discernable representation of the product or group of products";
- "**data entry device for providing said terminal with said ... item codes**" in claim 1 was construed to mean "device that provides coded information, including said item associated item codes, to the remote ordering terminal"; and
- "**user inputting said identifying code**" in claim 22 was construed to mean "user inputting the identifying code such that said user device receives the identifying code from the user."

Appx008, Appx027.

On July 26, 2016, the District Court ordered the parties to submit supplemental expert reports applying these new claim constructions to the infringement/noninfringement issues. Appx4428. The District Court further ordered the parties to make their experts available for deposition on the issues raised in the supplemental expert reports, and to submit letter briefs including argument related to the same. *Id.*

Pursuant to the District Court's July 26 order, Cronos submitted its supplemental expert report on infringement on July 28, 2016. In the report, Dr. Rhyne applied the District Court's new claim constructions to Defendants' accused systems, and opined that "the information input by the customer into the search fields [on Defendants' websites] constitutes an 'item code' [or identifying code]" because "it is a system-specific code … that corresponds to a product or a group of products." Appx4624 at ¶¶ 5, 10. He explained that this "code is used by the accused website to return the corresponding list of available flights/hotels/car reservations," and that this list is made up of "user-discernable representations of the product or group of products" as required by the Court's constructions. *Id.* at ¶¶ 6, 10, 11. Dr. Rhyne further opined that even if the inputs he identified are not found to literally meet the item code and identifying code claim elements, that they nonetheless meet those elements under the doctrine of equivalents because the item codes he identified

perform substantially the same function in substantially the same way as that contemplated by the claims. *Id.* at ¶¶ 7-8, 12-13.

Defendants submitted their supplemental expert report on August 4, 2016. Defendants' expert, Dr. Michael Shamos, did not contend that Dr. Rhyne failed to identify any element of any claim as construed by the District Court. Instead, he challenged only Dr. Rhyne's application of the District Court's constructions to the accused systems, thereby creating issues of fact. *See* Appx4642.

Cronos deposed Dr. Shamos on August 9, 2016. Appx4580. Defendants elected not to depose Dr. Rhyne. The parties submitted their opening letter briefs regarding the supplemental expert reports, and their responses thereto, on August 11 and 12, 2016, respectively. Appx4430, Appx4568, Appx4755, Appx4787.

On August 15, 2016, the District Court, despite the issues of fact presented by the experts' competing testimony, granted Defendants' motion for summary judgment of noninfringement, finding that the user inputs identified by Dr. Rhyne are not "item codes" or "identifying codes." Appx003. All other pending motions were denied as moot. *Id.* Final judgment in favor of Defendants was entered on August 18, 2016. Appx001. Cronos filed its notice of appeal on August 18, 2016. Appx4854.

II. SUMMARY OF ARGUMENT

The claim constructions adopted by the District Court are unsupported by the specification or prosecution history, and improperly import limitations into the claims. With respect to the terms "item code" and "identifying code" (which the parties agree should be construed to mean the same thing), the District Court's construction does not define "code," nor what it means to be "distinct from" the user-discernable representation of the product or group of products. The District Court failed to account for the clear teaching in the specification that an item or identifying code is any system-specific code used to identify a product or group of products. The District Court's added limitation that the item code be "distinct from the user-discernable representation" is unsupported by any evidence. The specification does not require the item/identifying code to have any specific form, and in fact provides that the code can include any "system specific code." Likewise, the District Court cited no prosecution history requiring such an added limitation, and the prosecution history contains no such limitation.

The District Court's constructions of the user-input terms ("data entry device for providing said terminal with said ... item codes" of claim 1 and "user inputting said identifying code" of claim 22) are likewise erroneous. They are ambiguous with respect to what it means to "provide[]" or "receive[]" the item/identifying code. Moreover, the District Court improperly imported the extraneous limitation that the

codes must initially be presented by the user. This purported limitation excludes preferred embodiments set forth in the specification, which describes inputting item codes through presentment by the system (e.g., the user makes selections from a list of options presented by the system). Nothing in the claim language or specification supports the District Court's added limitation.

Cronos proposed constructions that are consistent with the patent specification and the claim language. Defendants' accused systems meet each of the claim limitations under these correct constructions. The District Court never made any finding of noninfringement under the correct constructions advocated by Cronos. Since the District Court's constructions were erroneous, summary judgment should be reversed. If this Court reverses the District Court's claim constructions, it need not reach the further argument below that summary judgment was in error even under the constructions entered by the District Court.

Even assuming, arguendo, that the District Court's claim constructions are correct, it nonetheless erred in granting summary judgment of noninfringement because genuine issues of material fact precluded summary judgment. Defendants' motion presented the issue of whether Cronos's expert properly applied the claims, as construed by the District Court, to the functionality of the accused systems (e.g., whether the user inputs identified by Cronos's expert constitute an "item code"). This Court has repeatedly held that this is a fact issue that cannot be resolved on

summary judgment. Cronos's expert further opined that, even if the accused systems do not literally infringe the '110 patent, they infringe under the doctrine of equivalents, thereby creating an additional genuine issue of material fact precluding summary judgment.

Accordingly, the District Court's erroneous constructions should be vacated, and Cronos's proposed constructions, which are entirely consistent with the claim language and specification, should be adopted. To the extent that this Court affirms the District Court's constructions of the terms referenced above, the District Court's order granting summary judgment of noninfringement should be reversed.

III. STANDARD OF REVIEW

A. Claim Construction

This Court "review[s] the district court's ultimate interpretation of the patent claims de novo." *Shire Dev., LLC v. Watson Pharm., Inc.*, 787 F.3d 1359, 1364 (Fed. Cir. 2015) (citing *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841-42 (2015)). "'[W]hen the district court reviews only evidence intrinsic to the patent (the patent claims and specifications, along with the patent's prosecution history), the judge's determination will amount solely to a determination of law, and [the Court] will review that construction de novo.'" *Id.* This standard still applies where the district court hears or receives extrinsic evidence, so long as the district court did not make any factual findings that underlie its constructions. *Id.* at 1368.

Here, the District Court relied solely on the patent specification in reaching the constructions at issue, and made no factual findings. *See* Appx008. Its constructions are therefore properly reviewed de novo.

B. Summary Judgment

This Court "review[s] the grant of summary judgment under the law of the regional circuit in which the district court sits," in this case, the Third Circuit. *Sunovion Pharm., Inc. v. Teva Pharm. USA, Inc.*, 731 F.3d 1271, 1275 (Fed. Cir. 2013). "The Third Circuit reviews the grant of summary judgment without deference, drawing all reasonable inferences in favor of the nonmovant." *Id.* (citing *Nicini v. Morra*, 212 F.3d 798, 805-06 (3d Cir. 2000)). Accordingly, this Court reviews the District Court's "order granting summary judgment de novo, applying the same standard used by the District Court." *Nicini*, 212 F.3d at 805. The Court "must decide for itself 'if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law.'" *Leggett & Platt, Inc. v. Hickory Springs Mfg. Co.*, 285 F.3d 1353, 1357 (Fed. Cir. 2002) (citing Fed. R. Civ. P. 56(c); *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986)). In making this determination, the Court must "view[] the record in a light most favorable to the non-moving party." *Id.*

Infringement is a question of fact, and "on appeal from a grant of summary judgment of noninfringement, [the Court] determine[s] whether, after resolving reasonable factual inferences in favor of the patentee, the district court correctly concluded that no reasonable jury could find infringement." *Sunovion*, 731 F.3d at 1275-76. Likewise, "[i]nfringement under the doctrine of equivalents requires an intensely factual inquiry." *Leggett & Platt*, 285 F.3d at 1357. Therefore, the Court should only "affirm the district court's grant of summary judgment if the record contains no genuine issue of material fact and leaves no room for a reasonable jury to find equivalence." *Id.* "Credibility determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts are jury functions, not those of a judge." *Reeves v. Sanderson Plumbing Prods.*, *Inc.*, 530 U.S. 133, 150 (2000). Furthermore, "the court should give credence to the evidence favoring the nonmovant." *Id.*

IV. ARGUMENT

A. The District Court's Construction of "Item Code" and "Identifying Code" Is Erroneous and Improperly Imports Limitations

The District Court construed the terms "item code" (claim 1) and "identifying code" (claim 22) as "a code corresponding to a purchasable product, or group of products, that is distinct from the user-discernable representation of the product or group of products." Appx019-023. In doing so, the Court rejected Cronos's proposed construction ("information used to designate a purchasable product"),

which is entirely consistent with the '110 patent specification (*see* Appx4267-4268, Appx4273-4275), in favor of a construction that is unsupported by the specification or prosecution history, and improperly imports limitations into the claims.

The patent specification makes clear that, after being provided by the data entry device, the "item code" can be "checked against" various databases of the order processing system, for example, to obtain and display "user-discernable information" corresponding to the "item code" and place the item on a list for purchase. Appx063 at 1:51-58. The specification does not require the item code to have any specific form. It is simply information the ordering system uses to designate a purchasable product. Furthermore, the specification describes various ways to communicate product designations to the system, including by scanning a bar code or by using a touchscreen to select an item on a list. *Id.* at 7:27-30; 3:22-26; 10:7-17. For example, in one embodiment, the user can add items to the order list (i.e., input item codes) by selecting (such as via mouse or touchscreen) the desired products from a list of products presented by the system. *Id.* at 10:7-12 (Figure 4 shows that the user "has chosen two items from [the] option list of 68 of perishables, including 'FRESH SALMON' and 'BANANAS' as indicated by an 'X' in icons 66 associated with these items."). Accordingly, "item code" should be construed to mean "information used to designate a purchasable product."

The District Court's construction recites that the item code must be "distinct from the user-discernable representation of the product or group of products." Although this language does not say so, the District Court appeared in its subsequent summary judgment ruling to further interpret its own construction to require that an item code cannot be in any way user-discernable. In its August 15, 2016 summary judgment order, the District Court seemed to suggest that an item/identifying code cannot contain any user-discernable information such as words or dates, but must be limited only to information with no independent meaning to the user, such as a bar code or UPC number. Appx005. The District Court failed to show that this requirement was somehow present in any intrinsic evidence, because it is not. Moreover, this purported limitation is not part of the District Court's construction, and Cronos's expert reasonably understood the construction to mean that the item code is simply different than, or not identical to, the user-discernable representation of the product or group of products – which is a separate element of the claims. *See, e.g.*, Appx4627 at ¶ 6; Appx4826 at ¶ 4.

In any event, the purported limitation that the item code be "distinct from the user-discernable representation" is unsupported by the evidence. Appx080 at 3:15-18 ("The specific bar code employed can be Code 128, Codabar, or one of the UPC (UPC-A, UPC-E) or EAN (EAN-8, EAN-13) codes, or *any other code including system specific code*." (emphasis added)). While it is true that in some embodiments

of the invention, the item code and user-discernable representation are distinguishable from each other, these examples should not be imported as limitations, particularly where, as here, the limitation is ambiguous with respect to the meaning of "distinct." *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1218 (Fed. Cir. 2014) ("Although the claims must be read in light of the specification, it is important that we 'avoid importing limitations from the specification into the claims.'").

The flaw in the District Court's construction is particularly evident in light of the express disclosure that a computer keyboard can be used to input the item code. Appx080 at 3:33-36 ("Further alternative embodiments of the data entry device 16 of the present invention employ a standard 'QWERTY' keyboard 35 or custom keypad[.]"). Dependent claims also confirm that the data entry device (the device for inputting item codes) can be a keyboard. For example, claim 8 recites that the data entry device is selected from a group consisting of "a keyboard, a keypad, a magnetic stripe reader, and a voice recognition circuit." Appx086 at 15:43-46. Neither a keyboard nor a voice recognition circuit could be used to input an item code if the user was not able to "discern" the code as the District Court appears to have required. Even Defendants' expert admitted that when the data entry device is a keyboard, the user can input the item code by typing in a number that could be "understood" or discerned by a user, thereby negating Defendants' own argument

(accepted by the District Court) that item codes cannot be user-discernable. Appx4587-4588 at 330:5-335:23.

B. The District Court's Construction of the User-Input Terms Improperly Excludes Preferred Embodiments

The District Court construed the term "data entry device for providing said terminal with said ... item codes" of claim 1 to mean a "device that provides coded information, including said item associated item codes, to the remote ordering terminal," and the term "user inputting said identifying code" of claim 22 (collectively referred to herein as the "user-input terms") to mean "user inputting the identifying code such that said user device receives the identifying code from the user." Appx023-024. Again, these constructions are impermissibly ambiguous, unsupported by the specification or prosecution history, and improperly import limitations which exclude preferred embodiments.

The primary point of contention between the parties with respect to these terms is whether the claims require the item/identifying codes to be initially presented to the system only by the user, or whether they can also be presented by the system to (and then selected by) the user. Cronos's proposed construction is consistent with the preferred embodiment in that it allows for both scenarios.[2] The

[2] Cronos proposed that both user-input terms be construed as: "providing an item code to the remote ordering terminal either by: (1) initial presentation by the user; or (2) selection by the user of a product or service from a list of purchasable products or services displayed by the remote ordering terminal." *See* Appx4268-4270.

District Court, however, rejected Cronos's proposed construction, and adopted the constructions proposed by Defendants. In doing so, the District Court found that "[t]he claim language, read in the context of the specification, makes clear that item codes are initially provided by the user to the system." Appx024. This is incorrect.

As an initial matter, the District Court's constructions are ambiguous with respect to what it means to "provide[]" or "receive[]" the item/identifying code. And though the District Court specifically directed the parties to discuss the presentment issue in their supplemental claim construction briefing (Appx4042), neither construction proposed by Defendants, and ultimately adopted by the District Court, captures the purported requirement that the codes must initially be provided by the user. The District Court nonetheless appears to have adopted this requirement in its application of its constructions in granting summary judgment.

This "presentment by the user" requirement improperly excludes preferred embodiments set forth in the patent specification, which describes both inputting item codes through presentment by a user (such as by scanning a bar code, Appx082 at 7:25-30) *and* through presentment *by the system* (such as providing the user a list of options to select from). *See, e.g.*, Appx083 at 9:35-52 (describing embodiment where the user is presented with "sub-menus" of available products, such as sub-menus labeled "butchercounter," "delicatessen," "fruits," "vegetables," etc. in the case of a grocery store); 9:47-59 (describing embodiment where a user wishing to

order butter is presented with a sub-menu "providing the user with a range of butter products to choose from"); 10:12-17 (discussing the "exemplary embodiment" of Figure 4 where the user has chosen two items from the presented "option list of perishables, including 'FRESH SALMON' and 'BANANAS' as indicated by an 'X' in icons associated with these items").

Much like Defendants' infringing systems, the preferred embodiment of the '110 patent, as illustrated in Figures 3 through 5, allows users to add products to their order list by selecting the products and inputting item codes from a list presented to them by the system. Appx083 at 10:12-17. The District Court's constructions, which exclude this preferred embodiment, cannot be correct. *See Anchor Wall Sys., Inc. v. Rockwood Retaining Walls, Inc.*, 340 F.3d 1298, 1308 (Fed. Cir. 2003) ("it is axiomatic that a claim construction that excludes a preferred embodiment … is rarely, if ever correct").

The District Court's reasoning that the embodiment depicted in Figure 4 and the associated portions of the specification "do not relate to input of item codes by the user" because the claim language "makes clear that the item codes are initially provided by a user to the system" (Appx024) is incorrect. First, nothing in the specification suggests that the examples in Figures 3 through 5 do not relate to inputting item codes. The specification clearly states that Figures 3 through 10 illustrate "a sequence of steps involved in *creating and submitting an order list*,"

and that Figure 3 "illustrates a typical order entry screen." Appx082 at 7:13-15, 21 (emphasis added). And as discussed above, Figure 4 specifically shows how a user can create an order list by selecting the desired items from an option list presented by the system. In particular, Figure 4 shows that the user "has chosen two items from [the] option list of 68 of perishables … as indicated by an 'X' in icons 66 associated with these items." Appx083 at 10:7-17; *see also* Appx081 at 6:30-42 (discussing an alternative embodiment where the DPU has a "pre-programmed DPU database" stored within RAM that can include, for example, "common household staple items such as milk, bread, butter, etc."). While Cronos does not dispute that the item codes must be input by the user, nothing in the claim language (or the specification) indicates that the item codes must *initially* be provided by the user, or that user input excludes user selection of item codes presented by the system. The District Court's assertion that these embodiments are excluded from every claim of the patent finds no textual support in the intrinsic evidence, and neither the District Court nor Defendants identified any language in the patent imposing such a limitation.

Furthermore, to the extent that the District Court reached its constructions by focusing on certain embodiments where the "data entry device" is a bar code reader (Appx022-023), the constructions improperly exclude additional disclosures in the specification providing that the data entry device (for inputting item codes) can be a

mouse. *See* Appx080 at 4:53-40 (in "another embodiment, the DPU 10 receives user instructions via a command entry device, such as a mouse," and "the same device can be used to perform the functions of both the data entry device 16 and the command entry device 35"); Claims 17, 18 (dependent claims providing command entry device is a "mouse," and that the command entry device and data entry device are the same device). When a mouse is the data entry device used to input item codes, clicking on a hyperlink (or other form of presentation) presented by the system is exactly what the preferred embodiment depicted in Figures 3-5 contemplates. The District Court never addressed these embodiments and disclosures in its orders.

C. Even Assuming the District Court's Constructions Are Correct, Summary Judgment Is Not Warranted

Even assuming the District Court's constructions of the "item/identifying code" and the user input terms are correct, Cronos's expert properly applied those constructions and demonstrated they are present in Defendants' accused systems, thereby creating genuine issues of material fact precluding summary judgment. The District Court improperly resolved these issues in favor of Defendants, and its order granting summary judgment should be reversed.

1. Cronos's Expert Properly Applied the District Court's Construction of "Item/Identifying Codes" to the Accused Systems

In his supplemental expert report, Dr. Rhyne compared the claims of the '110 patent as construed by the District Court to Defendants' accused systems. He explained that "the information input by the customer into the search fields [of Defendants' websites (e.g., departure city, arrival city, departure date, return date)] collectively constitutes an 'item code' under the Court's construction" because "it is a system-specific code (*see* the '110 Patent at 3:16-18) that corresponds to a product or group of products." Appx4624 at ¶¶ 5, 10. Dr. Rhyne further explained that this "code is used by the accused website to return the corresponding list of available flights/hotels/car reservations (the purchasable product or group of products)," which is "returned to the user when the specific search is completed," and that this list is made up of "user-discernable representations of the product or group of products" as required by the Court's constructions. *Id.* at ¶¶ 6, 10, 11.

With respect to the requirement, under the District Court's construction, that the item/identifying codes must initially be provided by the user, Dr. Rhyne explained the "data are input by the user such that the user device (the user's computer, laptop, or mobile device) receives the identifying code from the user when the user types or otherwise inputs the code (as selecting a data within a displayed

calendar) by using his or her keyboard, mouse, or touchscreen directly into the user device." *Id.* at ¶ 10; *see also* Appx4825 at ¶ 5.[3]

Defendants' argument (accepted by the District Court) that the codes identified by Dr. Rhyne are not item/identifying codes because "user-discernable search parameters cannot be 'codes' as construed by the Court and as understood in the context of the '110 patent" (Appx005) is incorrect. Nothing in the District Court's construction precludes search parameters from being item/identifying codes. Nor does the District Court's construction require that the item/identifying codes cannot be user-discernable in and of themselves or otherwise contain any user-discernable information. The District Court's construction only requires that the item/identifying codes be "distinct from" the user-discernable representations, which are referenced elsewhere in the claims. Appx028.

As explained by Dr. Rhyne, the item/identifying codes (the information input by the customer into the search fields) *are distinct* from the user-discernable representations (the corresponding list of available flights/hotels/car reservations returned to the user when the search is completed) because "[t]he item codes do not

[3] Defendants' expert Dr. Shamos conceded that a user inputs Dr. Rhyne's identified item code. Appx4582 at 311:16-17 ("What [Dr. Rhyne] says is the item code is the collection of data that's entered by the user."). Defendants' Rule 30(b)(6) witnesses also confirmed that the users type the information into the search fields. Appx4831 at 41:7-24. The District Court did not address these arguments in its July 22 or August 15 orders, but in any event it is clear that this presents an additional issue of material fact.

contain the same user discernable flight, hotel or rental car information that is presented by the system once the item codes have been entered and a search for matching products has been made." Appx4627 at ¶ 6; *see also* Appx4826 at ¶ 4. Defendants' expert Dr. Shamos admitted that the user-entered search data are not products, do not define products, and are different from the list of returned products. Appx4584-4585 at 320:13-322:20.

2. Dr. Rhyne's Expert Testimony Created a Genuine Issue of Material Fact Precluding Summary Judgment

Defendants' expert, Dr. Shamos, does not contend that Dr. Rhyne failed to identify any element of any claim as construed by the Court. Instead, he disagrees with Dr. Rhyne's application of the Court's constructions to the accused systems. Appx4582-4583 at 313:20-314:14 (testifying that he "disagree[s] with the manner in which Dr. Rhyne has compared the construction of item code to the Defendants' accused websites"). Specifically, Dr. Shamos and Dr. Rhyne disagree about whether the search field information input by the users is a "code." Appx4644 at ¶ 9 ("Yet Dr. Rhyne proposes that a set of user-discernable data entered into search fields can serve as 'item codes,' when they are not codes at all.").[4] Dr. Shamos also disputes

[4] Though Dr. Shamos contends that the user inputs are not codes, he also testified that such inputs include "airport codes," creating a fact issue regarding his own contradictory opinions. Appx4584 at 318:1-319:10. *Semcon Tech, LLC v. Micron Tech., Inc.*, No. 2015-1936, 2016 WL 4409360, at *4 & n.4 (Fed. Cir. Aug. 19, 2016) (concluding "that the inconsistency between the [expert's deposition testimony and

that these items codes are unique, and that the returned list of available flights/hotels/car reservations constitutes a "group of products." *Id.* at ¶ 12.

The question of which expert more credibly compares the construed claims to the accused product is a fact question for the jury that cannot be resolved on summary judgment. *See Dow Chem. Co. v. United States*, 226 F.3d 1334, 1338 (Fed. Cir. 2000) (the issue of "comparing the properly construed claims to the device [or process] accused of infringing" is a "factual determination"); *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1301 (Fed. Cir. 2011) ("It is well-settled that infringement is a factual issue[.]"); *Globetrotter Software, Inc. v. Elan Computer Grp., Inc.*, 362 F.3d 1367, 1379 (Fed. Cir. 2004) (vacating summary judgment of no infringement because patentee presented expert testimony creating an issue of material fact as to whether the accused product infringed claim). Key to this determination is judging the credibility of the parties' respective experts—a role exclusive to the finder of fact. *See, e.g., Conoco, Inc. v. Energy & Environmental International, L.C.*, 460 F.3d 1349, 1362-63 (Fed. Cir. 2006) (noting that the "application of the facts to [the court's] construction" of the terms in question required a credibility determination of the competing witness testimony); *Crown Packaging Tech., Inc. v. Ball Metal Beverage Container Corp.*, 635 F.3d 1373, 1384

---

explanation] is a relevant factor bearing on whether it was appropriate for the district court to grant summary judgment").

(Fed. Cir. 2011) ("Where there is a material dispute as to the credibility and weight that should be afforded to conflicting expert reports, summary judgment is usually inappropriate.").

In *Uniloc*, this Court addressed the same issue presented here – proper application of the claim construction to the functionality of the accused device. *Uniloc*, 632 F.3d at 1302 (noting that in "this case . . . the claim construction itself is not contested, but the application of that claim construction to the accused device is"). The district court determined that the plaintiff's expert improperly applied the court's claim construction of a certain limitation to the accused products and granted judgment as a matter of law of noninfringement. *Id.* at 1302. This Court reversed, holding that district court was not permitted to "evaluate 'the credibility of witnesses, resolve conflicts in testimony, or evaluate the weight of the evidence,'" and that "[i]t is decidedly the jury's role to evaluate the weight to be given to the testimony of dueling qualified experts." *Id.* at 1306; *see also Simpson v. Betteroads Asphalt Corp.*, 598 F. App'x 68, 71 (3d Cir. 2015) (affirming district court's denial of judgment as a matter of law where patentee presented evidence on each element required to support his claim; "It was the role of the jury to determine the credibility of the witnesses presenting conflicting testimony[.]"); *Ethicon Endo-Surgery, Inc. v. Covidien, Inc.*, 796 F.3d 1312, 1315 (Fed. Cir. 2015) (vacating district court's grant of summary judgment of noninfringement where district court improperly

discounted the patentee's expert testimony and resolved genuine disputes of material fact in favor of defendant).

As in *Uniloc*, the District Court was presented with competing expert testimony regarding proper application of the court's claim constructions to the accused systems. The parties' expert testimony thus creates genuine issues of material of fact regarding, *inter alia*, whether information input into the search fields on Defendants' websites constitutes a system specific code, and whether this information constitutes an "item/identifying code" within the meaning of the '110 patent. The only way to resolve these issues is to weigh the competing expert testimony and decide which expert is more credible – a task solely within the province of the jury. Here, however, the District Court usurped the jury's role by improperly discounting Cronos's expert testimony and resolving the fact issues in favor of Defendants. *See* Appx004-005 (acknowledging the parties' competing arguments and evidence but then concluding that "[t]he Court agrees with Defendants" that search parameters are not "codes"); Appx025 at 16 (likewise accepting Defendants' argument that the codes identified by Dr. Rhyne are not item/identifying codes). Accordingly, as in *Uniloc*, the District Court's grant of summary judgment of noninfringement must be reversed.

3. Dr. Rhyne's Doctrine of Equivalents Opinion Also Precludes Summary Judgment

As this Court has recognized, "[b]ecause infringement under the doctrine of equivalents often presents difficult factual determinations, a summary conclusion that a reasonable jury could not find infringement is often illusive." *Leggett & Platt*, 285 F.3d at 1360; *see also Viskase Corp. v. American Nat. Can Co.*, 261 F.3d 1316, 1324 (Fed. Cir. 2001) (reversing summary judgment of infringement under the doctrine of equivalents because factual issues existed as to whether the accused products were more than insubstantially different from the claimed invention). Where, as here, the plaintiff has submitted expert testimony that the accused systems infringe under the doctrine of equivalents, there is a genuine issue of material fact and summary judgment is improper. *See Overhead Door Corp. v. Chamberlain Group, Inc.*, 194 F.3d 1261, 1270 (Fed. Cir. 1999) (reversing summary judgment of noninfringement under the doctrine of equivalents because patentee's expert declaration that a person of ordinary skill in the art would find the accused systems to be equivalent raised a genuine issue of material fact).

Dr. Rhyne's expert report explains that if the user inputs he identified are not found to literally meet the item code and identifying code claim elements, they nonetheless meet those elements under the doctrine of equivalents. Appx4627, Appx4629 at ¶¶ 7-8, 12-13. Specifically, Dr. Rhyne opines:

> The item codes I identified above perform substantially the same function as the item codes of claim 1 because they are system-specific codes that correspond to and identify a particular purchasable product or group of products. The user-entered data I identified as the claimed item codes above also performs that function in substantially the same way as that contemplated by claim 1. In particular, those item codes create a correspondence between the user discernable item data for a product or group of products found in the list of available product(s) provided to the user by the accused system based on those codes.[5] Finally, the item codes I identified above achieve substantially the same result as the item codes of claim 1 because they provide a mechanism that allows the accused systems to retrieve the user-discernable item data corresponding to the item codes for the desired product or group of products from the memories accessible by those systems.

Appx4627-4628 at ¶ 8; *see also* Appx4629 at ¶ 13 (re: Claim 22).

In response, Defendants' expert merely disputes that the inputs Dr. Rhyne identified are equivalent to a code, creating an issue of fact precluding summary judgment. *Uniloc*, 632 F.3d at 136 (competing expert testimony creates an issue of fact to be decided by the jury). The District Court erred in resolving this fact issue in favor of Defendants. *Leggett & Platt*, 285 F.3d at 1357.

Furthermore, even if it were proper for the District Court to weigh and decide the factual dispute about equivalents, the District Court improperly "shortcut" the doctrine of equivalents analysis because it failed to consider whether the user inputs identified by Dr. Rhyne are insubstantially different than the claimed item/identifying codes. Instead, the District Court stated that permitting Dr. Rhyne's

[5] Defendants' expert admitted that the function of the item code was "to provide input so that a database look-up can be performed to translate [or retrieve] user-discernable product information[.]" Appx4593 at 355:16-20, 356:11-12.

equivalents analysis would "vitiate" the claim requirements. The District Court severely misapplied this Court's doctrine of vitiation. As this Court has explained:

> "Vitiation" is not an exception to the doctrine of equivalents, but instead a legal determination that "the evidence is such that no reasonable jury could determine two elements to be equivalent." The proper inquiry for the court is to apply the doctrine of equivalents, asking whether an asserted equivalent represents an "insubstantial difference" from the claimed element, or "whether the substitute element matches the function, way, and result of the claimed element." …
>
> Courts should be cautious not to shortcut this inquiry by identifying a "binary" choice in which an element is either present or "not present." Stated otherwise, the vitiation test cannot be satisfied by simply noting that an element is missing from the claimed structure or process because the doctrine of equivalents, by definition, recognizes that an element is missing that must be supplied by the equivalent substitute. If mere observation of a missing element could satisfy the vitiation requirement, this "exception" would swallow the rule.

Deere & Co. v. Bush Hog, LLC, 703 F.3d 1349, 1356-57 (Fed. Cir. 2012) (internal citations omitted).

In *Epos Techs. Ltd. v. Pegasus Techs. Ltd.*, 766 F.3d 1338, 1348 (Fed. Cir. 2014), the district court "devoted only two sentences to its decision on infringement … under the doctrine of equivalents," summarily concluding that "allowing continuous ultrasound signals to be equivalents would eliminate the intermittent limitation entirely." *Id.* This Court found that "the district court 'shortcut' the inquiry by identifying a binary choice (continuous or intermittent) that is not compelled by the [] patent and the record evidence," and failed to adequately consider the patentee's expert declaration regarding the doctrine of equivalents. *Id.*

Accordingly, this Court vacated the district court's order granting summary judgment of noninfringement under the doctrine of equivalents.

Here, much like in *Epos*, the District Court devoted only one sentence to its decision regarding the doctrine of equivalents, concluding, without analysis, that "Plaintiffs' argument under the doctrine of equivalents also fails because, as argued by Defendants, the argument 'vitiates the "code" requirement entirely.'" Appx005. The District Court failed to properly consider Dr. Rhyne's expert opinion, and apparently relied on a binary choice (user-discernable code vs. indiscernible code) unsupported by the patent. As in *Epos*, this Court should likewise vacate the District Court's order of summary judgment here. Dr. Rhyne's analysis did not simply ignore the "item code" claim element. He explained what structures in the accused system he determined to be equivalent to the claimed "item code" and explained why they were equivalent. Such analysis does not vitiate the claim element. The District Court's analysis suggests that vitiation applies not to claim elements, but to claim constructions. But claim constructions define the boundaries of literal infringement. If the mere fact that an alleged equivalent did not meet the terms of a claim construction ruled out infringement by equivalents, then the entire doctrine of equivalents would be eliminated. The core principle of infringement under the doctrine of equivalents is that an element is *not* literally found in the accused device

– i.e., not present in the exact form of the construed claim. The District Court misapplied these principles to erroneously grant summary judgment.

Moreover, as discussed above, the District Court's construction of "item/identifying code" only requires that the codes be "distinct from" the user-discernable representations, and does *not* provide that the item/identifying codes cannot be user-discernable. As explained by Dr. Rhyne, the identified item codes *are distinct* from the user-discernable representations because "[t]he item codes do not contain the same user discernable flight, hotel or rental car information that is presented by the system once the item codes have been entered and a search for matching products has been made." Appx4627 at ¶ 6; *see also* Appx4826-4827 at ¶ 4. In any event, the issue of which expert correctly applied the claim constructions to the accused systems is an issue of fact solely for the jury. *Uniloc*, 632 F.3d at 1302.

V. CONCLUSION AND STATEMENT OF RELIEF SOUGHT

For the foregoing reasons, the District Court's claim constructions in its July 22, 2016 Memorandum Opinion and Supplemental Claim Construction Order (Appx008, Appx027) are incorrect, and, even assuming said constructions are correct, the District Court erred in granting summary judgment of noninfringement. Accordingly, Cronos respectfully requests that this Court:

1. Vacate the District Court's construction of "item code" in claim 1 and "identifying code" in claim 22, and construe these terms to mean "information used to designate a purchasable product";

2. Vacate the District Court's construction of "data entry device for providing said terminal with said ... item codes" in claim 1 and "user inputting said identifying code" in claim 22, and construe these terms to mean "providing an item code to the remote ordering terminal either by: (1) initial presentation by the user; or (2) selection by the user of a product or service from a list of purchasable products or services displayed by the remote ordering terminal";

3. Vacate the judgment of noninfringement; and

4. Remand these cases to the District Court for further proceedings.

Respectfully submitted,

Dated: December 1, 2016 /s/ *Paul A. Kroeger*

Brian D. Ledahl
bledahl@raklaw.com
Larry C. Russ
lruss@raklaw.com
Paul A. Kroeger
pkroeger@raklaw.com
RUSS AUGUST & KABAT
12424 Wilshire Boulevard, 12th Floor
Los Angeles, California 90025
Telephone: (310) 826-7474
Facsimile: (310) 826-6991

Counsel for Plaintiff-Appellant
Cronos Technologies, LLC

ADDENDUM

TABLE OF CONTENTS

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

CRONOS TECHNOLOGIES, LLC, Plaintiff, v. EXPEDIA, INC., Defendant.	)	C.A. No. 13-1538 (LPS)
CRONOS TECHNOLOGIES, LLC, Plaintiff, v. PRICELINE.COM, INCORPORATED (n/k/a THE PRICELINE GROUP INC.) and PRICELINE.COM LLC, Defendants.	)	C.A. No. 13-1541 (LPS)
CRONOS TECHNOLOGIES, LLC, Plaintiff, v. TRAVELOCITY.COM L.P., Defendant.	)	C.A. No. 13-1544 (LPS)

FINAL JUDGMENT

Pursuant to the Court's August 15, 2016, Memorandum Order granting Defendants' motion for summary judgment of non-infringement, (D.I. 275 in C.A. No. 13-1538; D.I. 282 in C.A. No. 13-1541; D.I. 275 in C.A. No. 13-1544), it is hereby **ORDERED**, **ADJUDGED**, and **DECREED** that:

1. Defendants Expedia, Inc., TVL LP f/k/a Travelocity.com L.P., priceline.com Incorporated (n/k/a The Priceline Group Inc.), and priceline.com LLC (collectively, "Defendants") have not infringed any claim of U.S. Patent No. 5,664,110 (the "'110 Patent") for the reasons stated in the Court's Order of August 15, 2016;

2. **FINAL JUDGMENT** of non-infringement of the '110 Patent is entered in favor of Defendants and against Plaintiff;

3. Any request for an award of costs or attorneys' fees shall be filed within 30 days after the later of the date that the time for appeal of this Judgment has expired or, if there is an appeal from this Judgment, the issuance of the Mandate of the Court of Appeals; and

4. In the event that an appeal is taken from this Judgment and the Judgment is reversed or remanded for further proceedings, all defenses asserted and pending motions (including D.I. 164, D.I. 167, and D.I. 170 in C.A. No. 13-1538; D.I. 170, D.I. 173, and D.I. 176 in C.A. No. 13-1541; D.I. 164, D.I. 167, and D.I. 170 in C.A. No. 13-1544), shall be reinstated.

August 18, 2016

CHIEF JUDGE Leonard P. Stark

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

CRONOS TECHNOLOGIES, LLC, Plaintiff, v. EXPEDIA, INC., Defendant.	)	C.A. No. 13-1538-LPS
CRONOS TECHNOLOGIES, LLC, Plaintiff, v. PRICELINE.COM, INCORPORATED (n/k/a THE PRICELINE GROUP INC.) and PRICELINE.COM LLC, Defendants.	)	C.A. No. 13-1541-LPS
CRONOS TECHNOLOGIES, LLC, Plaintiff, v. TRAVELOCITY.COM L.P., Defendant.	)	C.A. No. 13-1544-LPS

MEMORANDUM ORDER

At Wilmington this **15th** day of **August**, **2016**:

Having reviewed the parties' letter briefs regarding supplemental expert discovery (D.I.

260, 262, 265, 268)[1] and associated filings, **IT IS HEREBY ORDERED** that Defendants Expedia, Inc., priceline.com, Incorporated (n/k/a The Priceline Group, Inc.), priceline.com, LLC, and TVL LP's (f/k/a Travelocity.com LP) ("Defendants") motion for summary judgment of non-infringement (D.I. 170) ("Motion") is **GRANTED**, for the reasons already stated in the Court's Memorandum Opinion of July 22, 2016 (D.I. 242) and for the additional reasons given below.

Defendants' Motion seeks summary judgment that Defendants do not infringe any of the asserted claims of U.S. Patent No. 5,664,110 ("'110 patent").[2] Each of the asserted claims includes either the term "item code" or "identifying code." On July 22, 2016, the Court construed the terms "item code" and "identifying code" to both mean "a code corresponding to a purchasable product, or group of products, that is distinct from the user-discernable representation of the product or group of products." (D.I. 242 at 7-14)

On July 26, 2016, the Court ordered the parties to conduct supplemental expert discovery to permit the parties' experts to apply the Court's new claim constructions as part of an infringement/non-infringement analysis of Defendants' accused products. (D.I. 250)

Pursuant to the Court's July 26 Order, the parties exchanged supplemental expert reports (D.I. 258, 259) and submitted letter briefs including argument related to the supplemental discovery (D.I. 260, 262, 265, 268).

Cronos Technologies, LLC ("Plaintiff") argues that information entered into search fields by users on Defendants' websites constitutes item codes or identifying codes as claimed in the

---

[1]All docket citations are to C.A. No. 13-1538.

[2]The asserted claims are claims 1, 3, 8, 10, 14, 16, 17, 22, 26, 30, 31, 41, and 42.

asserted claims. (D.I. 262 at 1) Plaintiff also argues that user-inputted search parameters infringe under the doctrine of equivalents. (*Id.* at 2-3) Plaintiff cites its expert's supplemental testimony in support of these arguments. (*See, e.g.*, *id.* at 1) (citing Supplemental Expert Report of Dr. V. Thomas Rhyne, D.I. 262-1 Ex. A ¶ 5 ("In my opinion, the information input by the customer into the search fields collectively constitutes an 'item code' under the Court's construction.")))

Defendants respond that the purported "codes" identified by Plaintiff's expert are not item codes or identifying codes because user-discernable search parameters cannot be "codes" as construed by the Court and as understood in the context of '110 patent. The Court agrees with Defendants.

No reasonable jury could find that Defendants' accused systems infringe the asserted claims of the '110 patent because the search parameters identified by Plaintiff are user-discernable representations of products or services offered on Defendants' systems and are not item codes or identifying codes. Plaintiff's argument under the doctrine of equivalents also fails because, as argued by Defendants, the argument "vitiates the 'code' requirement entirely," as construed by the Court. (*See* D.I. 260 at 2) (citing *Southco, Inc. v. Fivetech Tech. Inc.*, 611 F. App'x 681, 686 (Fed. Cir. 2015)) The Court can – and does – reach these conclusions without making any assessment of the parties' competing experts' credibility and by drawing all reasonable inferences from the record evidence in the light most favorable to Plaintiff.

Accordingly, and for the additional reasons already articulated in the Court's Memorandum Opinion of July 22 (D.I. 242), Plaintiff has failed to raise a genuine issue of material fact and the Court will grant Defendants' Motion for summary judgment of non-

infringement.

IT IS FURTHER ORDERED that:

(1) In light of the foregoing, the following motions are **DENIED** as moot:[3]

(a) Plaintiff's Motion for Partial Summary Judgment of No Invalidity and Dismissal of Certain Affirmative Defenses (D.I. 164),

(b) Plaintiff's Motion to Exclude Certain Testimony of Defendants' Experts (D.I. 167),

(c) Defendants' Motion for Summary Judgment of No Willfulness (D.I. 170),

(d) Defendants' Motion to Strike Certain Opinions of Dr. V. Thomas Rhyne (D.I. 170),

(e) Defendants' Motion for Partial Summary Judgment of Invalidity (D.I. 170), and

(f) Defendants' Motion to Strike and Exclude the Expert Opinions of Stephen Dell (D.I. 170).[4]

(2) Defendants' Motion to Strike the Second Supplemental Declaration of Dr. V. Thomas Rhyne (D.I. 273) is **DENIED** as moot. Even considering the entirety of Dr. Rhyne's second supplemental declaration (D.I. 266), the Court has decided to grant Defendants' Motion

---

[3]During a teleconference on July 25, 2016, the parties agreed that all pending summary judgment and *Daubert* motions would be moot if the Court were to grant Defendants' motion for summary judgment of non-infringement, as the Court has now done. (*See* D.I. 255 at 9-11, 13-14)

[4]To the extent Defendants have moved separately under alternative theories of non-infringement that the Court has not addressed in this Order or in the Court's Memorandum Opinion of July 22, these motions (D.I. 170) are also **DENIED** as moot.

for summary judgment of non-infringement.

(3) The pretrial conference and trial scheduled in this matter are **CANCELLED**.

(4) No later than August 17, 2016, the parties shall meet and confer and submit a proposed order of final judgment consistent with the rulings contained in the instant Order.

HON. LEONARD P. STARK
UNITED STATES DISTRICT JUDGE

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

CRONOS TECHNOLOGIES, LLC, Plaintiff, v. EXPEDIA, INC., Defendant.	)	C.A. No. 13-1538-LPS
CRONOS TECHNOLOGIES, LLC, Plaintiff, v. PRICELINE.COM, INCORPORATED (n/k/a THE PRICELINE GROUP INC.) and PRICELINE.COM LLC, Defendants.	)	C.A. No. 13-1541-LPS
CRONOS TECHNOLOGIES, LLC, Plaintiff, v. TRAVELOCITY.COM L.P., Defendant.	)	C.A. No. 13-1544-LPS

Richard D. Kirk, Stephen B. Brauerman, BAYARD, P.A., Wilmington, DE

Brian D. Ledahl, Paul A. Kroeger, Adam S. Hoffman, RUSS, AUGUST & KABAT, Los Angeles, CA

Attorneys for Plaintiff Cronos Technologies, LLC.

Jack B. Blumenfeld, Michael J. Flynn, MORRIS, NICHOLS, ARSHT & TUNNELL LLP, Wilmington, DE

John M. Jackson, Nathaniel (Nate) St. Clair II, Matthew C. Acosta, JACKSON WALKER L.L.P., Dallas, TX
David Folsom, JACKSON WALKER L.L.P., Texarkana, TX

Attorneys for Defendants Expedia, Inc., Priceline.com, Inc., Priceline.com LLC, and Travelocity.com L.P.

MEMORANDUM OPINION

July 22, 2016
Wilmington, Delaware

STARK, U.S. District Judge:

Pending before the Court is a motion for summary judgment of non-infringement (D.I. 170) ("Motion") filed by Defendants Expedia, Inc., priceline.com, Incorporated (n/k/a The Priceline Group, Inc.), priceline.com, LLC, and TVL LP (f/k/a Travelocity.com LP) ("Defendants").

I. BACKGROUND

Cronos Technologies, LLC ("Plaintiff") sued Defendants for infringement of U.S. Patent No. 5,664,110 ("'110 patent") in September 2013. (*See, e.g.*, C.A. No. 13-1538 D.I. 1)[1] The '110 patent is entitled "Remote Ordering System" and generally relates to a system for creating and updating "order lists" by communicating with "merchant stock databases." ('110 patent at 1)[2] Plaintiff argues that claims 1, 3, 8, 10, 14, 16, 17, 22, 26, 30, 31, 41, and 42 of the '110 patent ("Asserted Claims") are infringed by Defendants' travel booking websites. (D.I. 179 Ex. 11 at 1) Claims 1 and 22 are independent. Claims 1, 3, 8, 10, 14, 16, and 17 are apparatus claims ("Apparatus Claims"). Claims 22, 26, 30, 31, 41, and 42 are method claims ("Method Claims").

The Court held a *Markman* hearing on April 13, 2015 and issued a Memorandum Opinion on claim construction on June 8, 2015. (D.I. 82, 86)

On March 15, 2016, Defendants moved for summary judgment that their websites do not infringe any of the Asserted Claims. (D.I. 170) The parties completed briefing on Defendants' Motion on April 22, 2016. (D.I. 172, 198, 212) The Court held a hearing on the Motion, and

---

[1]All docket citations are to C.A. No. 13-1538, unless otherwise noted.

[2]The '110 patent is in the record at D.I. 1 Ex. A.

other summary judgment and *Daubert* motions filed by the parties,[3] on May 24, 2016. (*See* Transcript, D.I. 235 ("Tr.")).

After the May 24 hearing, the Court ordered the parties to submit additional briefing regarding (1) the parties' proposed constructions for the terms "item code" and "identifying code" as used in claims 1 and 22 respectively, and (2) the parties' views regarding the phrases "data entry device for providing said terminal with said . . . item codes" and "user inputting said identifying code" in claims 1 and 22 respectively. (D.I. 229) The parties completed briefing on these issues on June 10, 2016. (D.I. 230, 232, 233, 234)

II. LEGAL STANDARDS

A. Claim Construction

The ultimate question of the proper construction of a patent is a question of law. *See Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 837 (2015) (citing *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 388-91 (1996)). "It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (internal quotation marks omitted). "[T]here is no magic formula or catechism for conducting claim construction." *Id.* at 1324. Instead, the court is free to attach the appropriate weight to appropriate sources "in light of the statutes and policies that inform patent law." *Id.*

"[T]he words of a claim are generally given their ordinary and customary meaning . . .

---

[3]The Court is not at this time addressing any of the other motions that are pending and were the subject of the May hearing. Nor has the Court addressed each of Defendants' non-infringement arguments. The Court will confer with the parties before proceeding to resolve the other disputes the parties have put before the Court.

[which is] the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Id.* at 1312-13 (internal citations and quotation marks omitted). "[T]he ordinary meaning of a claim term is its meaning to the ordinary artisan after reading the entire patent." *Id.* at 1321 (internal quotation marks omitted). The patent specification "is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

While "the claims themselves provide substantial guidance as to the meaning of particular claim terms," the context of the surrounding words of the claim also must be considered. *Phillips*, 415 F.3d at 1314. Furthermore, "[o]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment . . . [b]ecause claim terms are normally used consistently throughout the patent . . . ." *Id.* (internal citation omitted).

It is likewise true that "[d]ifferences among claims can also be a useful guide . . . . For example, the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." *Id.* at 1314-15 (internal citation omitted). This "presumption is especially strong when the limitation in dispute is the only meaningful difference between an independent and dependent claim, and one party is urging that the limitation in the dependent claim should be read into the independent claim." *SunRace Roots Enter. Co., Ltd. v. SRAM Corp.*, 336 F.3d 1298, 1303 (Fed. Cir. 2003).

It is also possible that "the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs." *Phillips*, 415 F.3d at 1316. It bears emphasis that "[e]ven

when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction." *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (internal quotation marks omitted).

In addition to the specification, a court "should also consider the patent's prosecution history, if it is in evidence." *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370 (1996). The prosecution history, which is "intrinsic evidence," "consists of the complete record of the proceedings before the PTO [Patent and Trademark Office] and includes the prior art cited during the examination of the patent." *Phillips*, 415 F.3d at 1317. "[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*

In some cases, "the district court will need to look beyond the patent's intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period." *Teva*, 135 S. Ct. at 841. Extrinsic evidence "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Markman*, 52 F.3d at 980. For instance, technical dictionaries can assist the court in determining the meaning of a term to those of skill in the relevant art because such dictionaries "endeavor to collect the accepted meanings of terms used in various fields of science and technology." *Phillips*, 415 F.3d at 1318. In addition, expert testimony can be useful "to ensure that the court's understanding of

the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field." *Id.* Nonetheless, courts must not lose sight of the fact that "expert reports and testimony [are] generated at the time of and for the purpose of litigation and thus can suffer from bias that is not present in intrinsic evidence." *Id.* Overall, while extrinsic evidence "may be useful" to the court, it is "less reliable" than intrinsic evidence, and its consideration "is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." *Id.* at 1318-19. Where the intrinsic record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper. *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308 (Fed. Cir. 1999) (citing *Vitronics*, 90 F.3d at 1583).

Finally, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998). It follows that "a claim interpretation that would exclude the inventor's device is rarely the correct interpretation." *Osram GmbH v. Int'l Trade Comm'n*, 505 F.3d 1351, 1358 (Fed. Cir. 2007) (internal quotation marks omitted).

B. Summary Judgment

Pursuant to Rule 56(a) of the Federal Rules of Civil Procedure, "[t]he court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." The moving party bears the burden of demonstrating the absence of a genuine issue of material fact. *See Matsushita Elec. Indus. Co.,*

Ltd. v. Zenith Radio Corp., 475 U.S. 574, 585-86 (1986). An assertion that a fact cannot be – or, alternatively, is – genuinely disputed must be supported either by citing to "particular parts of materials in the record, including depositions, documents, electronically stored information, affidavits or declarations, stipulations (including those made for purposes of the motion only), admissions, interrogatory answers, or other materials," or by "showing that the materials cited do not establish the absence or presence of a genuine dispute, or that an adverse party cannot produce admissible evidence to support the fact." Fed. R. Civ. P. 56(c)(1)(A) & (B). If the moving party has carried its burden, the nonmovant must then "come forward with specific facts showing that there is a genuine issue for trial." *Matsushita*, 475 U.S. at 587 (internal quotation marks omitted). The Court will "draw all reasonable inferences in favor of the nonmoving party, and it may not make credibility determinations or weigh the evidence." *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 150 (2000).

To defeat a motion for summary judgment, the nonmoving party must "do more than simply show that there is some metaphysical doubt as to the material facts." *Matsushita*, 475 U.S. at 586; *see also Podobnik v. U.S. Postal Serv.*, 409 F.3d 584, 594 (3d Cir. 2005) (stating party opposing summary judgment "must present more than just bare assertions, conclusory allegations or suspicions to show the existence of a genuine issue") (internal quotation marks omitted). The "mere existence of some alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment;" a factual dispute is genuine only where "the evidence is such that a reasonable jury could return a verdict for the nonmoving party." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247-48 (1986). "If the evidence is merely colorable, or is not significantly probative, summary judgment may be granted." *Id.* at 249-50

(internal citations omitted); *see also Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986) (stating entry of summary judgment is mandated "against a party who fails to make a showing sufficient to establish the existence of an element essential to that party's case, and on which that party will bear the burden of proof at trial"). Thus, the "mere existence of a scintilla of evidence" in support of the nonmoving party's position is insufficient to defeat a motion for summary judgment; there must be "evidence on which the jury could reasonably find" for the nonmoving party. *Anderson*, 477 U.S. at 252.

III. DISCUSSION

A. Claim Construction

The Court ordered the parties to propose constructions for the terms "item code" and "identifying code" as these terms are used in claims 1 and 22, respectively. (D.I. 229 at 2) The parties agree that these terms should be construed to have the same meaning as one another, although the parties disagree about what that meaning should be. (D.I. 230 at 1; D.I. 232 at 3) The Court also permitted the parties to submit proposed constructions for the phrases "data entry device for providing said terminal with said . . . item codes"[4] and "user inputting said identifying code" in claims 1 and 22, respectively. (D.I. 229 at 2-3)

Claim 1 recites:

> A remote ordering terminal for providing at least one list of at least one item or group of items to a remotely located order processing system associated with one or more merchants on each of a plurality of occasions, each item or group of items having an item code associated therewith, said remote ordering terminal comprising:

[4]The term "data entry device" was previously construed by the Court as a "device that provides coded information to the remote ordering terminal." (D.I. 86 at 8-10)

user and/or merchant identifier means;

at least one data entry device for providing said terminal with said item associated item codes and with data from said user and/or merchant identifier means;

a database unit providing a user-specific database including user-discernable item data associated with item codes for user-selected items or groups of items;

memory to provide storage for said user-specific database, said memory in communication with said at least one data entry device for storing said at least one list;

communication means for associating said memory and said order processing system upon user command for remotely accessing said order processing system over a multi-user network, for transmitting said at least one list to said order processing system using said data from said user and/or merchant identifier means, and for receiving new and/or replacement user-discernable item data from said order processing system during association of said memory and said order processing system, said new and/or replacement user-discernable item data corresponding only to said at least one item or group of items of said at least one list;

a message display portion in communication with said memory and said user-specific database for displaying order pertinent information including said user-discernable item data from said memory; and

at least one command entry device responsive to user selection of items from said order pertinent information for assembling said at least one list and for enabling said user command, resulting in said transmitting of said at least one list to said order processing system,

wherein said at least one list is comprised of an order to be processed by said order processing system, or a provisional order list transmitted to said order processing system, transmission of either resulting in on-demand receipt of said new and/or replacement user-discernable item data within said user-specific database for said at least one item or group of items.

Claim 22 recites as follows:

> A method for remote ordering at least one desired item by a user from one of a plurality of merchants using a system having a user device, a central computer, one of a plurality of merchant databases, and a communications link including a multi-user network, said at least one desired item having a unique identifying code associated therewith, the method comprising:
>
> storing for a plurality of user-specific items, in an identifier database accessible at said user device for user perception at said user device, a user-cognizable identifier of said at least one item corresponding to said identifying code;
>
> user inputting said identifying code corresponding to said at least one desired item into said user device by machine recognition of said user input identifying code;
>
> accumulating from said identifier database selected ones of said user-cognizable identifiers corresponding to said input identifying codes in at least one list of desired items;
>
> selectively associating a transaction identifier having user and/or merchant identifications with said user device to identify a selected merchant database and/or to identify said user to a selected merchant database;
>
> commanding said user device to establish remote communication between said user device and said selected merchant database corresponding to said merchant identification through said central computer over said communications link including said multi-user network;
>
> interactively updating only said selected one of said user-cognizable identifiers in said identifier database of user-specific items with current information provided by said merchant database over said communications link in response to a user action at said user device, said user action including
>
> the communication of a provisional list of desired items transmitted to said selected merchant database for the purpose of providing said interactive updating, or

> the communication of an order list of desired items transmitted to said selected merchant database for the purpose of providing said interactive updating and remote ordering[,] said desired items comprising said order list; and
>
> passing transaction specific information over said communications link including said identifying codes between said user device and said selected merchant database.

1. "item code" / "identifying code"

Plaintiff "information used to designate a purchasable product"
Defendants "a code corresponding to a unique purchasable product, or group of products, that is distinct from the user-discernable representation of the product or group of products"[5]
Court "a code corresponding to a purchasable product, or group of products, that is distinct from the user-discernable representation of the product or group of products"

Plaintiff argues that these terms should be given a broad construction because "[t]he specification does not require the item code to have any specific form." (D.I. 232 at 3) As support for this argument, Plaintiff contends that "[t]he specification describes various ways to communicate product designations to the system, including by scanning a bar code and by touching a box next to an item on a list." (*Id.*) (citing '110 patent at 3:22-26, 7:27-30, 10:7-17) Plaintiff argues that Defendants' construction is "circular" because it includes the word "code" without proposing an "actual meaning" for this word. (*Id.* at 4) Plaintiff further contends that Defendants' construction improperly imports limitations from the specification by requiring an

[5]Defendants originally proposed a construction that included the words "item" and "items" in place of the words "product" and "products," respectively. (D.I. 230 at 1) Defendants later argued that replacing the word "item" with "product" would result in the same or similar construction. (*See* D.I. 234 at 2 n.2) The word "product" refines the meaning of the word "item," which already appears in the term "item code." Therefore, the Court will include the word "product" instead of "item" in its construction.

item code to (1) correspond to a "unique" purchasable product and (2) be "distinct" from user-discernable representations of the product. (*Id.*)

Defendants argue that their "unique" and "distinct" limitations are supported by the intrinsic record. (D.I. 230 at 1-2) Defendants also contend that the "unique" limitation is supported by extrinsic evidence – specifically, a dictionary definition for "Universal Product Code (UPC)," which is identified in the specification as an example of an "item code." (*Id.* at 1 n.3) According to Defendants, Plaintiff's example of "touching a box next to an item on a list," which is in the specification, does not qualify as communicating an item code to "the system" because this example originates from "portions of the specification that have nothing to do with inputting 'item codes.'" (D.I. 234 at 1-2) As support for this latter point, Defendants argue that a user's interaction with user-discernible representations of products is clearly distinguished "throughout the patent" from a user's inputting of item codes. (*Id.*) Defendants further contend that "Plaintiff's proposed construction improperly attempts to remove the 'item code input and translation' feature of the invention, which is specifically and separately required by the asserted claims, by conflating it with the 'selection and manipulation of user-discernable representations' feature." (D.I. 234 at 1)

The Court agrees with Defendants that Plaintiff's proposed construction is improperly broad. Plaintiff's construction is based on a flawed reading of the claim language in light of the specification. Plaintiff suggests that item codes may be entered when a user "touch[es] a box next to an item on a list" being displayed to the user. (D.I. 232 at 3) (citing '110 patent at 10:7-17) Plaintiff's cited portion of the specification, which describes an embodiment depicted in Figure 4, does not relate to the input of item codes as claimed in the Asserted Claims. The

claim language makes clear that item codes must be provided to the "remote ordering terminal" by a "data ***entry*** device" in claim 1 ('110 patent at 14:53-54) (emphasis added) and must be ***inputted*** by a "user" into a "user device" in claim 22 (*id.* at 16:35-38). These claim limitations do not cover a user's ***selection*** of item codes ***that have already been inputted*** into the "remote ordering terminal" or "user device." Because the cited portions of the specification related to Figure 4 do not relate to input of item codes, and because the claim language requires initial input of item codes by a user, Plaintiff's broad construction must be rejected.

The Court generally agrees with Defendants' proposed construction, with the exception of Defendants' inclusion of the "unique" limitation. Claim 22 explicitly requires that the "identifying code" be "unique," so inclusion of the "unique" limitation in the term "identifying code" would render the express limitation in claim 22 superfluous. The Court generally avoids constructions that render a claim limitation superfluous. *See TQ Beta LLC v. Dish Network Corp.*, 2016 WL 356024, at *5 (D. Del. Jan. 28, 2016) (citing *Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005)). Although claim 1 does not include an explicit "unique" limitation like claim 22, the parties agree that "item code" and "identifying code" should be construed to have the same meaning as one another. "[C]laim differentiation takes on relevance in the context of a claim construction that would render additional, or different, language in another independent claim superfluous." *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1381 (Fed. Cir. 2006). Hence, the Court declines to include the "unique" limitation in the Court's construction.

Although Plaintiff is correct that Defendants' definition is somewhat "circular" because it includes the word "code," the specification of the '110 patent indicates that "code" has a plain

and ordinary meaning to those of ordinary skill in the art. (*See* '110 patent at 3:14-17) ("The specific bar code employed can be Code 128, Codabar, or one of the UPC (UPC-A, UPC-E) or EAN (EAN-8, EAN-13) codes, ***or any other code*** including system specific code.") (emphasis added) The Court could include these examples from the specification in the Court's construction to further clarify the meaning of "code." However, including the examples is unnecessary in light of the Court's inclusion of Defendants' "distinct" limitation, discussed below.[6] Thus, it is appropriate to give the word "code" in "item code" its plain and ordinary meaning to one of skill in the art.

Finally, and importantly for purposes of deciding Defendants' Motion, the Court determines that these terms must be construed to be "distinct from the user-discernable representation of the product or group of products" associated with an item code. The claim language indicates that item codes are distinct from user-discernable information about a product. Claim 1 specifies that item codes are "associated with" user-discernable product information. ('110 patent at 14:56-58) Claim 22 includes the same distinction, specifying that item codes are input into the "user device by machine recognition of said user input identifying code" and that "user-cognizable identifiers correspond[] to" the identifying code.

The specification also instructs that item codes are to be distinguished from user-discernable information associated with item codes. For example, with respect to claim 22, the specification instructs that machine translations of item codes are "distinct from the user-discernable representation of the scanned product . . . ***the latter being in no way directly derivable from the [item] code***." (*See* '110 patent at 8:17-25) (emphasis added) Regarding

---

[6]In addition, inclusion of these highly technical examples would not be helpful to a jury.

claim 1, numerical representations of item codes received from data entry devices such as bar code scanners do not have independent meaning to users, according to the specification. (*See id.* at 7:27-30; 12:39-49) In light of the plain and ordinary meaning of the claim language, as read in light of the specification, the Court agrees with Defendants that item codes are distinct from user-discernable product information.[7]

2. "data entry device for providing said terminal with said . . . item codes"

Plaintiff "device that provides coded information to the remote ordering terminal for providing an item code to the remote ordering terminal either by: (1) initial presentation by the user; or (2) selection by the user of a product or service from a list of purchasable products or services displayed by the remote ordering terminal"
Defendants "device that provides coded information, including said item associated item codes, to the remote ordering terminal"
Court "device that provides coded information, including said item associated item codes, to the remote ordering terminal"

"user inputting said identifying code"

Plaintiff "providing an item code to the remote ordering terminal either by: (1) initial presentation by the user; or (2) selection by the user of a product or service from a list of purchasable products or services displayed by the remote ordering terminal"

[7]Because the distinction between item codes and user-discernable information is evident from a plain reading of the claim language, Plaintiff is incorrect that it would be necessary for the Court to find a disclaimer or disavowal in order to reach the conclusions the Court has reached. (*See* D.I. 232 at 4) Further, although unnecessary to consult extrinsic evidence to resolve this dispute, Defendants' expert, Dr. Michael Shamos, supports the Court's conclusion by opining as to the ordinary meaning of "item code" to one of skill in the art in the context of the '110 patent. (*See* D.I. 231-1 Ex. D at ¶¶ 57-68)

Defendants "user inputting the identifying code such that said user device receives the identifying code from the user"
Court "user inputting the identifying code such that said user device receives the identifying code from the user"

Plaintiff argues that users need not initially present the system with an item code, arguing that while item codes may be presented by a user to the system they alternatively may be presented to a user for selection. (D.I. 232 at 5) In support of this argument, Plaintiff again cites a portion of the specification that discusses the embodiment depicted in Figure 4. (*Id.*) (citing '110 patent at 10:7-17) For the reasons already discussed, the Court rejects Plaintiff's argument that Figure 4 and associated portions of the specification relate to input of item codes by the user. The claim language, read in the context of the specification, makes clear that item codes are initially provided by a user to the system, as already discussed above. This requirement is captured in Defendants' proposed construction, which the Court will adopt.[8]

B. Defendants' Motion for Summary Judgment of Non-Infringement

Plaintiff argues that hyperlinks implemented in Defendants' websites are item codes that infringe the Asserted Claims. (*See* D.I. 232 at 1) (arguing that users of Defendants' accused

[8]Plaintiff asserts that Defendants essentially "seek reconsideration of this Court's construction of 'data entry device' nearly a year after entry of the [Claim Construction] Order. This legal maneuver is procedurally improper and substantively incorrect." (D.I. 232 at 5-6) The Court disagrees, as it expressly invited the parties to consider "propos[ing] constructions" for terms, including "data entry device for providing said terminal with said . . . item codes." (D.I. 229 at 2-3; *see also generally Pfizer, Inc. v. Teva Pharm., USA, Inc.*, 429 F.3d 1364, 1377 (Fed. Cir. 2005) ("[D]istrict courts may engage in a rolling claim construction, in which the court revisits and alters its interpretation of the claim terms as its understanding of the technology evolves."))

websites "input item codes by clicking hyperlinks that include the item codes associated with the product offerings.") Defendants argue that Plaintiff has failed to point to any ***user input*** that ***initially*** provides the item codes to the system. (*See* D.I. 212 at 7) Defendants also contend, without dispute from Plaintiff, that everything identified by Plaintiff's expert as an item code is discernable to a user. (D.I. 230 at 5; *see also* Tr. at 32-33 (Plaintiff's counsel stating: "[E]verything Dr. Rhyne [Plaintiff's expert] has pointed to is discernable to the user. These search parameters and the hyperlinks are all discernable to the user."))

The Court agrees with Defendants. Plaintiff has failed to present evidence from which a reasonable jury could find infringement. Given the Court's constructions above, Plaintiff's evidence that user-discernable hyperlinks are presented to a user does nothing to meet the claim limitations that item codes must be initially provided by a user and are distinct from user-discernable representations of products. Plaintiff has presented no theory of infringement on which it could prevail under Defendants' constructions, which the Court has now (largely) adopted.

Plaintiff appears to concede that its infringement case depends on the Court adopting Plaintiff's constructions for the terms construed above, which the Court has not done. In the supplemental post-hearing briefing ordered by the Court, Plaintiff requests an opportunity to present additional evidence, should the Court adopt Defendants' constructions, or to assert infringement under the doctrine of equivalents. (*See generally* D.I. 233 at 5) Plaintiff's request comes very late. Plaintiff has made no effort to show good cause under Rule 16(b)(4) to modify the case schedule, which included dates for completion of expert discovery and for infringement contentions. Nor has Plaintiff given any explanation for how the additional expert testimony it

belatedly seeks to provide could change the Court's decision on non-infringement, even though the Court ordered the parties to discuss how the Court's claim construction inclinations (which the parties have had since May 24) with respect to the "item code" terms – specifically, that item codes are distinguishable from user-discernable information – "should be taken into account with respect to Defendants' non-infringement arguments." (D.I. 229 at 2)

Nevertheless, the Court recognizes that its actual constructions are only being provided to the parties today. It is possible (although unlikely) that Plaintiff could persuade the Court that even at this late date – with the pretrial conference just a week away and trial set to begin in a month – that it should be permitted to present new evidence or theories with respect to infringement. The Court will give the parties a brief opportunity to meet and confer and advise the Court as to whether summary judgment of non-infringement should be entered on the current record or whether Plaintiff should be permitted to further develop the record.

On the record as it stands at present, Defendants have met their burden at summary judgment of showing no genuine issue of material fact that their websites do not infringe the Asserted Claims of the '110 patent. If the record stays as it is, Defendants will be entitled to judgment as a matter of law.

IV. CONCLUSION

For the reasons above, the Court will construe the claim terms as indicated above and will order the parties to provide the Court their positions on whether summary judgment of non-infringement should be entered. An appropriate order follows.

US005664110A

United States Patent [19]

Green et al.

[11] Patent Number: 5,664,110

[45] Date of Patent: Sep. 2, 1997

[54] **REMOTE ORDERING SYSTEM**

[75] Inventors: **Jonathan B. Green**, Belmont; **William R. Pope**, Cambridge, both of Mass.

[73] Assignee: **Highpoint Systems, Inc.**, Belmont, Mass.

[21] Appl. No.: **351,795**

[22] Filed: **Dec. 8, 1994**

[51] **Int. Cl.**[6] **G06F 7/06**; G06F 17/30

[52] **U.S. Cl.** **705/26**; 705/1; 705/27

[58] **Field of Search** 364/401, 406, 364/408, 403; 340/825.32, 825.35; 235/379–383; 395/201, 226, 227

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,654,482	3/1987	DeAngelis	379/95
4,734,858	3/1988	Schlafly	364/408
4,882,475	11/1989	Miller et al.	235/383
4,897,865	1/1990	Canuel	379/91
4,947,028	8/1990	Gorog	235/381
4,972,318	11/1990	Brown et al.	364/403
4,984,155	1/1991	Geier et al.	364/401
5,023,904	6/1991	Kaplan et al.	379/91
5,047,614	9/1991	Bianco	235/385
5,117,354	5/1992	Long et al.	364/401
5,195,130	3/1993	Weiss et al.	379/98
5,250,789	10/1993	Johnsen	235/383
5,319,542	6/1994	King, Jr. et al.	364/401

OTHER PUBLICATIONS

Fergenoff, "CD–ROM Comes home=Bell Atlantic's intelligent home of the 21st century. (home–based information services", CD–ROM News Extra, v. 1, n. 6, p. 16(4), Dec. 1993, Dialog File 148, Acc. #06795500.

"Thomas Unveils Online Purchasing Network (Thomas Publishing introduces Connects electronic corporate purchasing network for industrial products", Electronic Buyers News, p.60, Dec. 11, 1995, Dialog file 9, Acc. No. 01355145.

Bethoney, "Made to order for online catalogs (iCat's Electronic commerce suite . . .)", PC Week, vol. 13, No. 45, p.80(1), Nov. 11, 1996, Dialog file 47 Acc. No. 04634978.

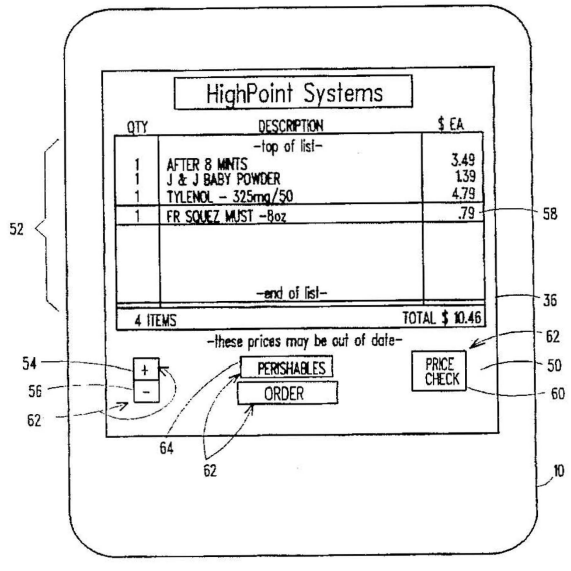
Staten, "iCat to do Net commerce. (Interactive Catalog's iCat Electronic Commerce Suite) . . . ", MacWeek, v. 10, n. 17, p.18(2), Apr. 29, 1996, Dialog file 148, Acc. No. 08633302.

Primary Examiner—Gail O. Hayes
Assistant Examiner—Frantzy Poinvil
Attorney, Agent, or Firm—Weingarten, Schurgin, Gagnebin & Hayes LLP

[57] **ABSTRACT**

A remote ordering system provides a user the ability to build and edit one or more order lists, resident in memory within a user device, and the further ability to review and manipulate a user interpretable display of the contents of such lists. A system comprising merchant stock databases, a data format/transfer computer (DFTC), and display/processor units (DPUs) (the user devices) enable creation and transmission of the order lists. Coded data read into each DPU identifies items to be added to the order lists. A DPU database contains user-discernable item information stored according to the associated coded data and is capable of learning new or updating old item information when in communication with the merchant database. Item information can be automatically or manually deleted to free DPU memory.

75 Claims, 15 Drawing Sheets



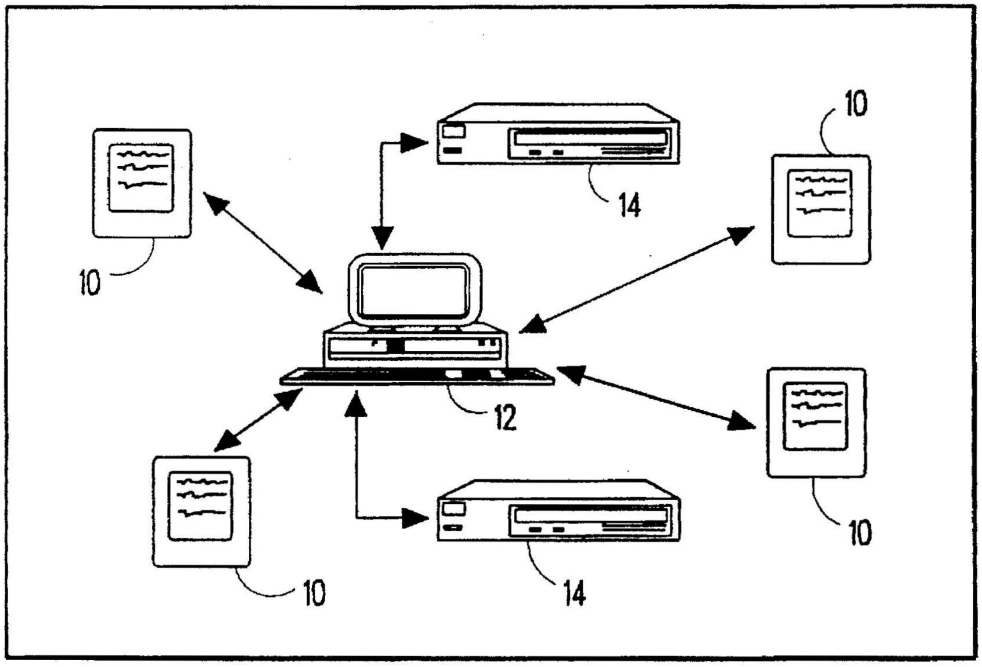


FIG. 1

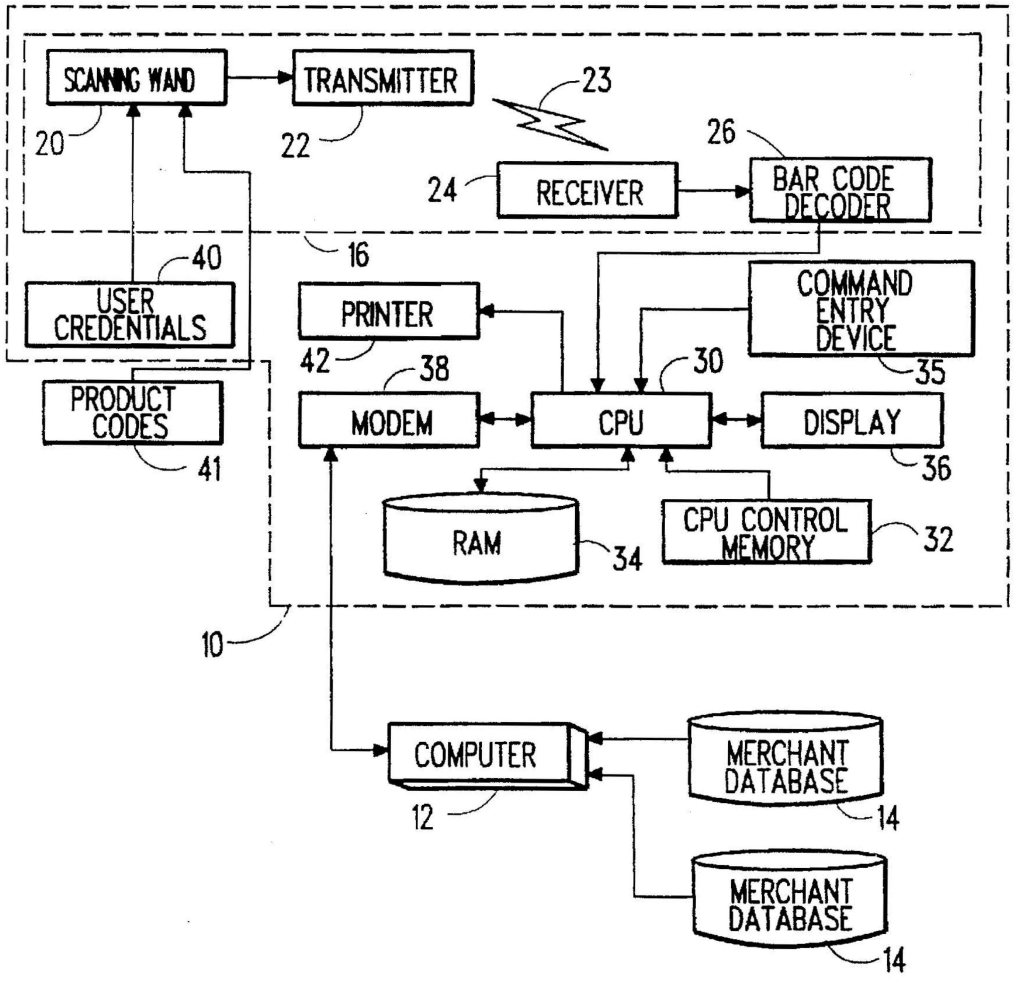

SCANNING WAND
TRANSMITTER
23
20
22
26
24
RECEIVER
BAR CODE DECODER
16
40
USER CREDENTIALS
PRINTER
COMMAND ENTRY DEVICE
42
38
30
35
PRODUCT CODES
MODEM
CPU
DISPLAY
41
36
RAM
CPU CONTROL MEMORY
34
32
10
COMPUTER
MERCHANT DATABASE
12
14
MERCHANT DATABASE
14

FIG. 2

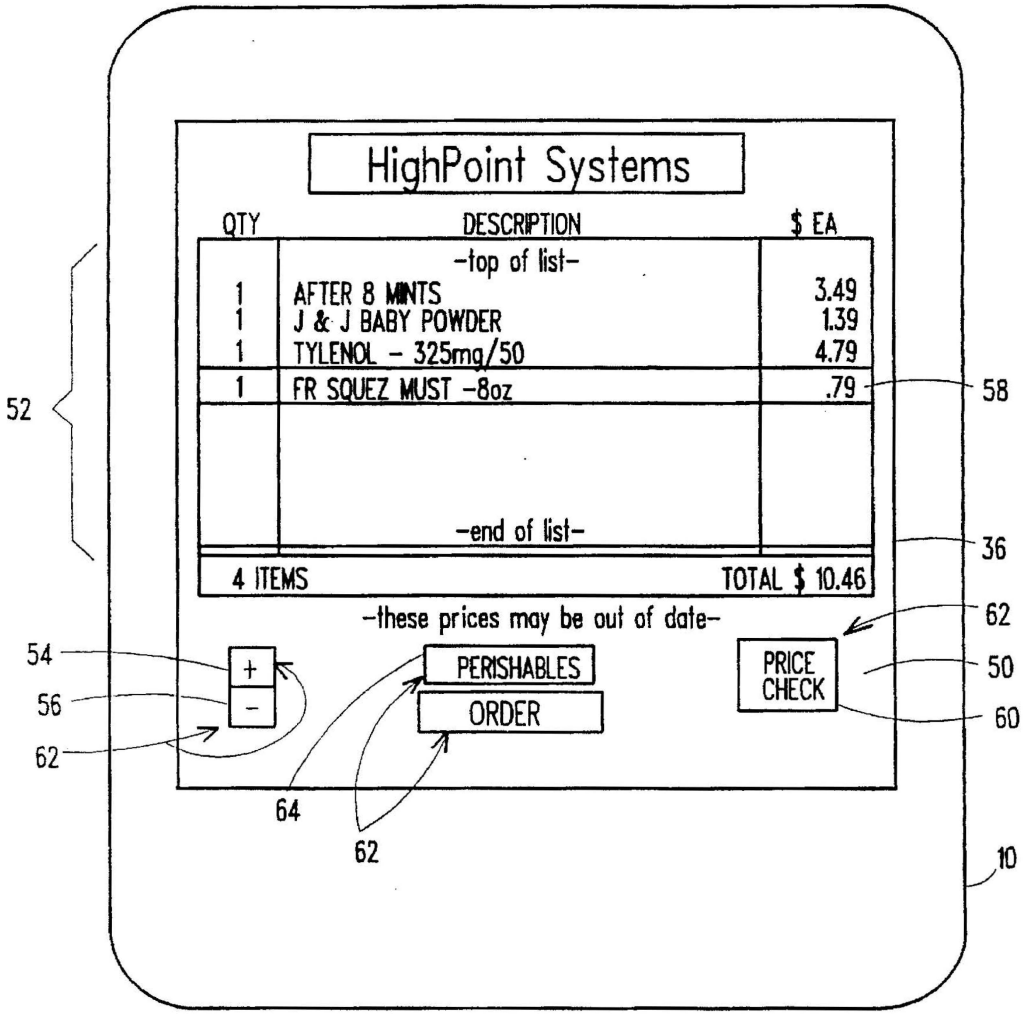

HighPoint Systems
QTY
DESCRIPTION
$ EA
-top of list-
1 AFTER 8 MINTS 3.49
1 J & J BABY POWDER 1.39
1 TYLENOL - 325mg/50 4.79
1 FR SQUEZ MUST -8oz .79
-end of list-
4 ITEMS
TOTAL $ 10.46
-these prices may be out of date-
PERISHABLES
ORDER
PRICE CHECK
+
-
52
54
56
58
36
62
50
60
64
10

FIG. 3

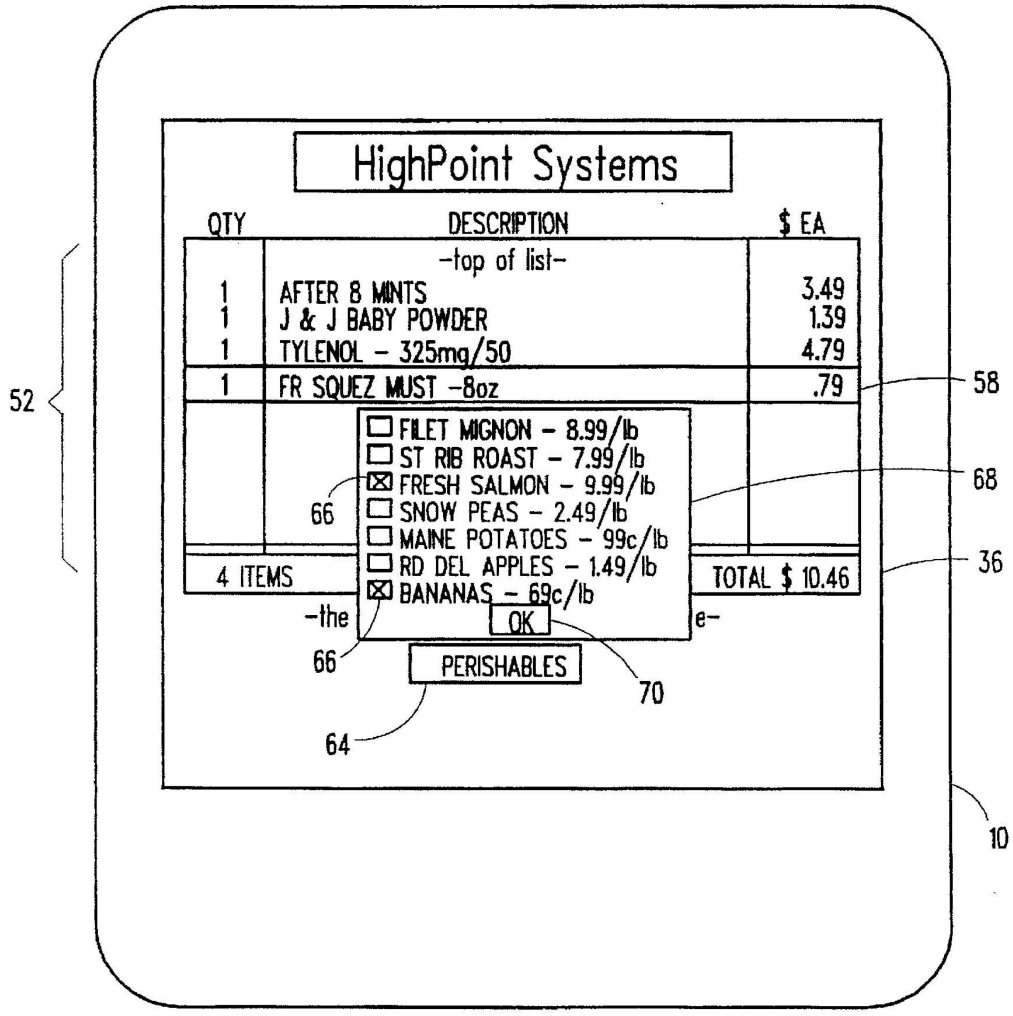

HighPoint Systems
QTY
DESCRIPTION
$ EA
-top of list-
1 AFTER 8 MINTS 3.49
1 J & J BABY POWDER 1.39
1 TYLENOL - 325mg/50 4.79
1 FR SQUEZ MUST -8oz .79
FILET MIGNON - 8.99/lb
ST RIB ROAST - 7.99/lb
FRESH SALMON - 9.99/lb
SNOW PEAS - 2.49/lb
MAINE POTATOES - 99c/lb
RD DEL APPLES - 1.49/lb
BANANAS - 69c/lb
OK
4 ITEMS
TOTAL $ 10.46
-the
e-
PERISHABLES
52
58
68
66
36
66
70
64
10

FIG. 4

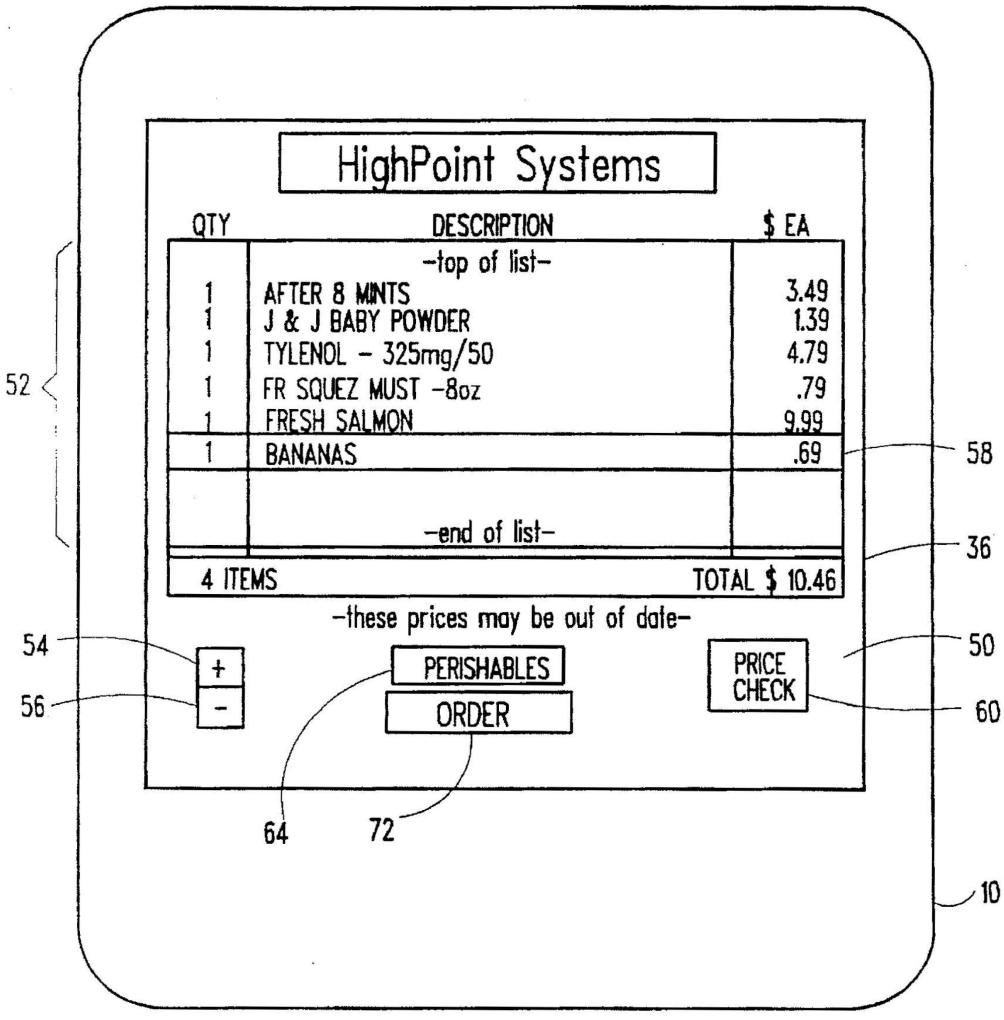

HighPoint Systems
QTY
DESCRIPTION
$ EA
-top of list-
1 AFTER 8 MINTS 3.49
1 J & J BABY POWDER 1.39
1 TYLENOL - 325mg/50 4.79
1 FR SQUEZ MUST -8oz .79
1 FRESH SALMON 9.99
1 BANANAS .69
-end of list-
4 ITEMS
TOTAL $ 10.46
-these prices may be out of date-
+
-
PERISHABLES
ORDER
PRICE CHECK
52
54
56
58
36
50
60
64
72
10

FIG. 5

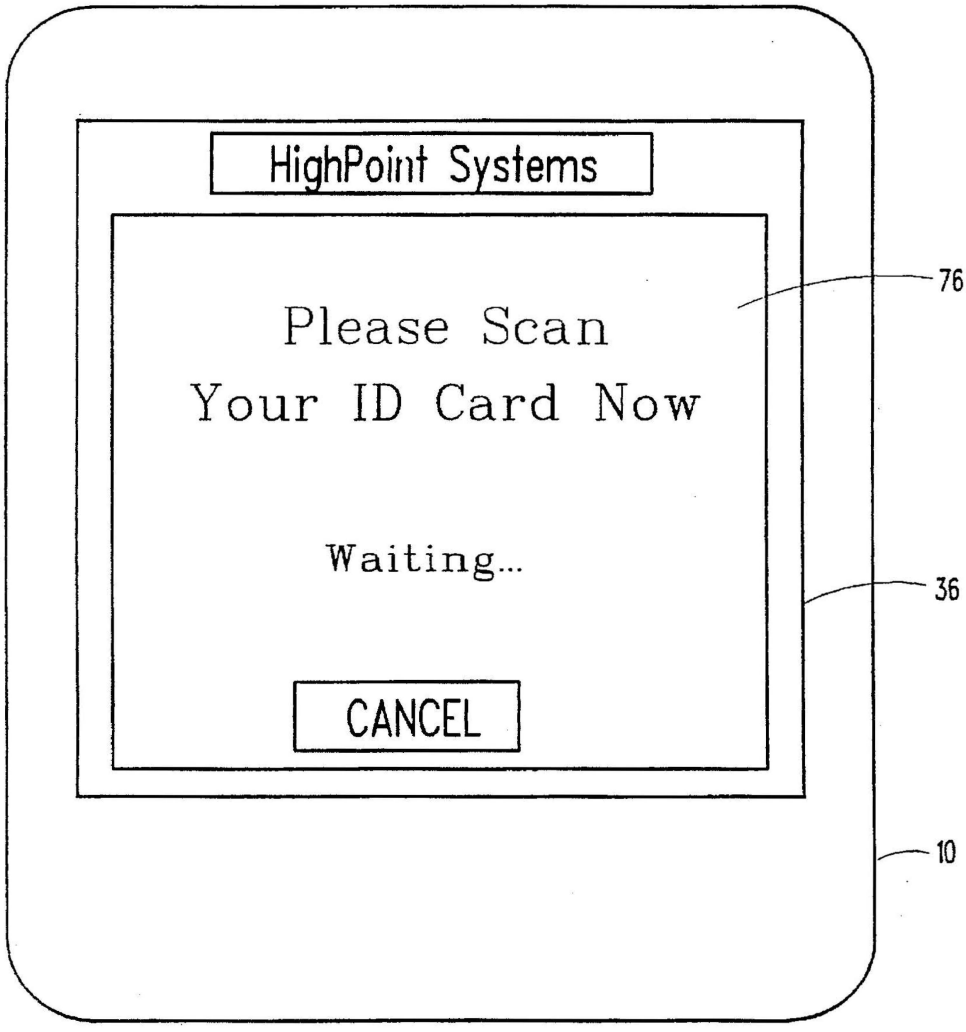

HighPoint Systems
Please Scan
Your ID Card Now
Waiting...
CANCEL
76
36
10

FIG. 6

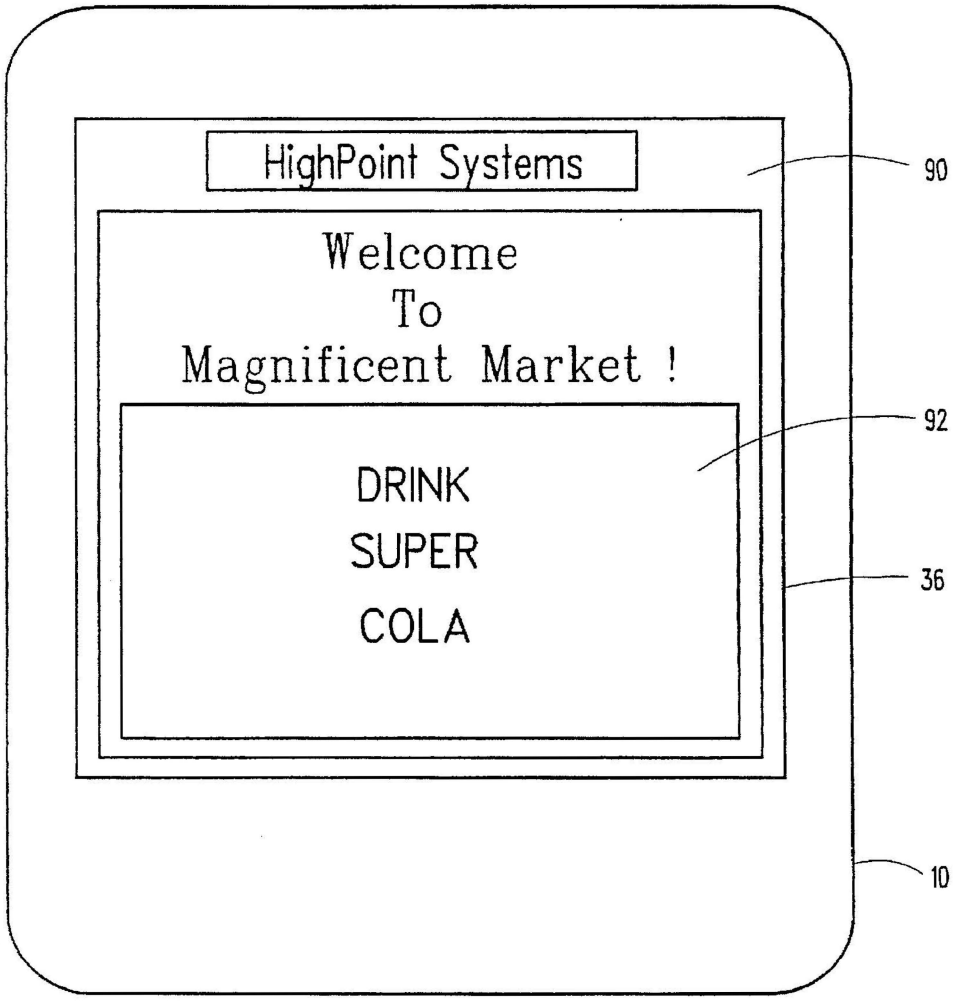

HighPoint Systems
90
Welcome
To
Magnificent Market !
92
DRINK
SUPER
COLA
36
10

FIG. 7

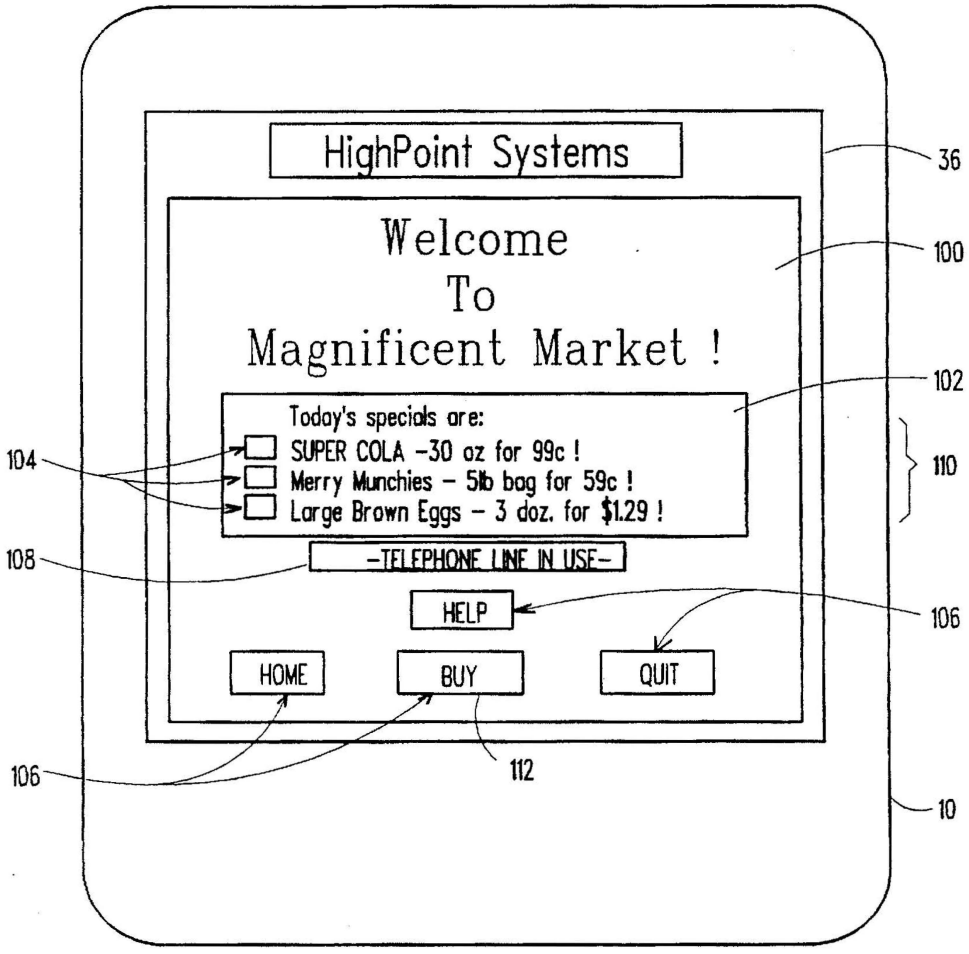

HighPoint Systems
Welcome
To
Magnificent Market !
Today's specials are:
SUPER COLA -30 oz for 99c !
Merry Munchies - 5lb bag for 59c !
Large Brown Eggs - 3 doz. for $1.29 !
-TELEPHONE LINE IN USE-
HELP
HOME
BUY
QUIT
36
100
102
104
110
108
106
106
112
10

FIG. 8

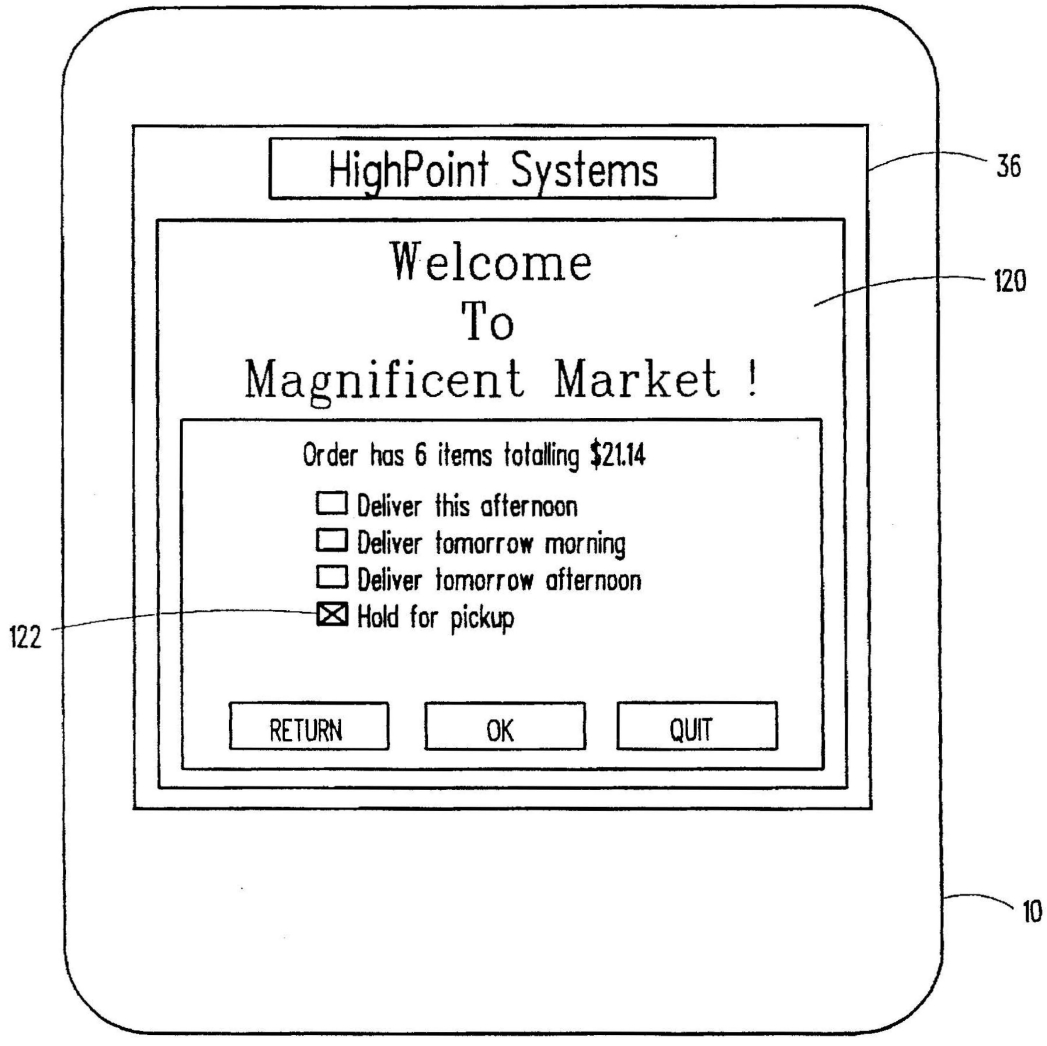

HighPoint Systems
36
Welcome
To
Magnificent Market !
120
Order has 6 items totalling $21.14
Deliver this afternoon
Deliver tomorrow morning
Deliver tomorrow afternoon
Hold for pickup
122
RETURN
OK
QUIT
10

FIG. 9

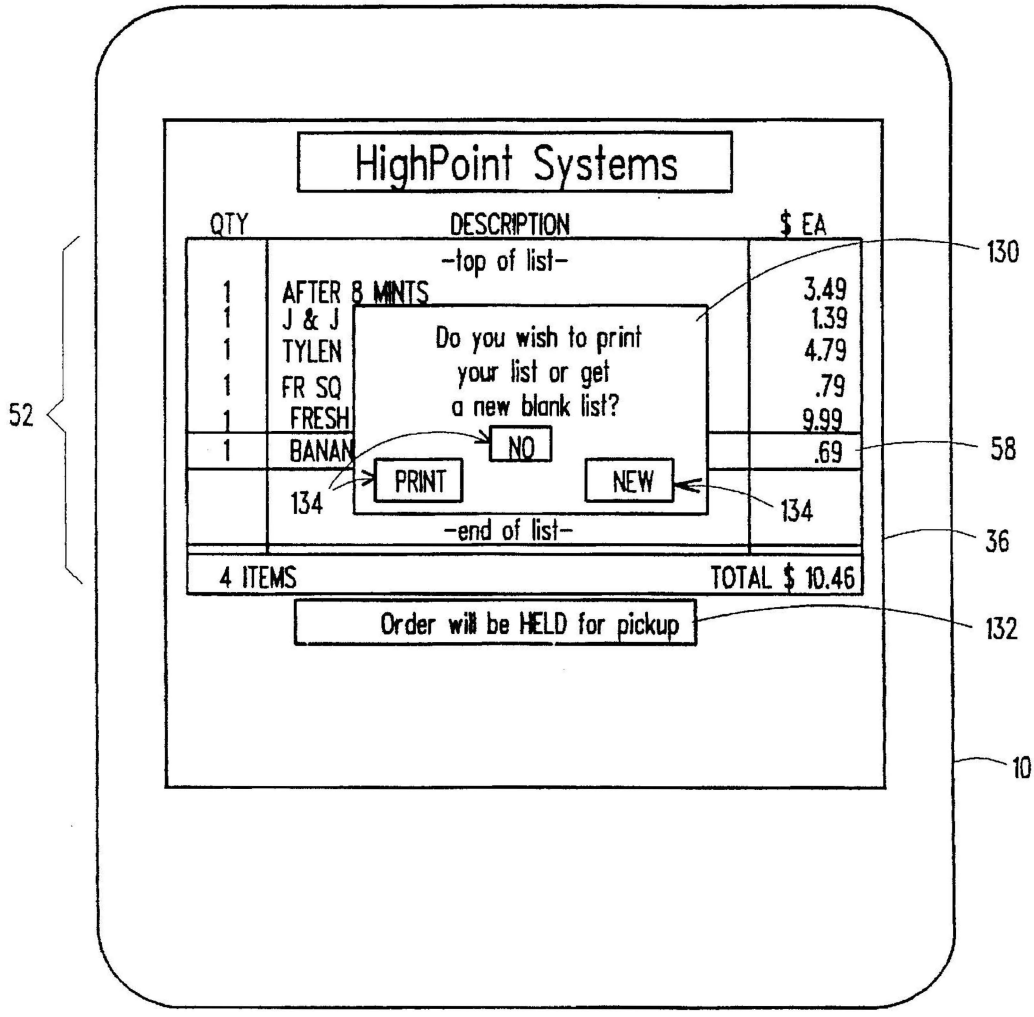

HighPoint Systems
QTY
DESCRIPTION
$ EA
-top of list-
1 AFTER 8 MINTS 3.49
1 J & J 1.39
1 TYLEN 4.79
1 FR SQ .79
1 FRESH 9.99
1 BANAN .69
Do you wish to print your list or get a new blank list?
NO
PRINT
NEW
134
134
-end of list-
4 ITEMS
TOTAL $ 10.46
Order will be HELD for pickup
52
130
58
36
132
10

FIG. 10

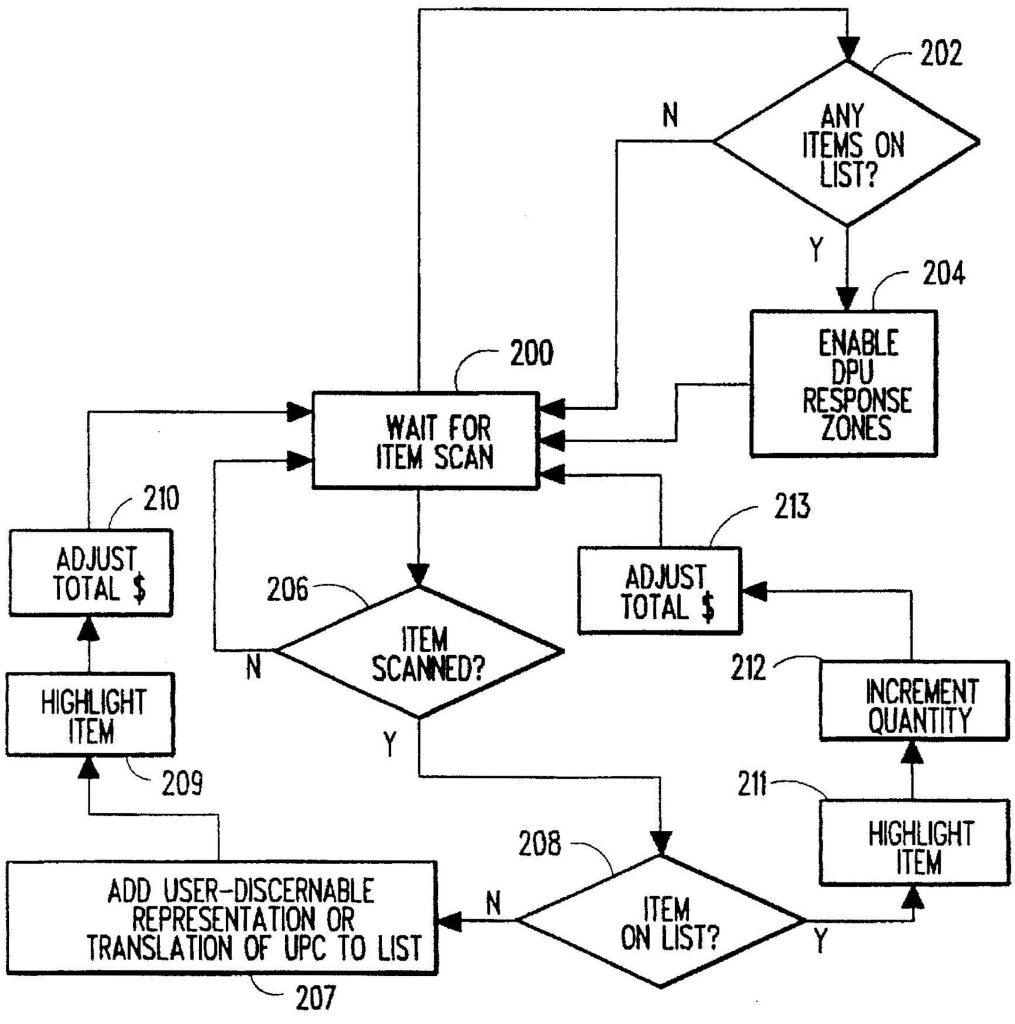

202
ANY ITEMS ON LIST?
N
Y
204
ENABLE DPU RESPONSE ZONES
200
WAIT FOR ITEM SCAN
210
ADJUST TOTAL $
206
ITEM SCANNED?
N
Y
213
ADJUST TOTAL $
212
INCREMENT QUANTITY
HIGHLIGHT ITEM
209
211
HIGHLIGHT ITEM
208
ADD USER-DISCERNABLE REPRESENTATION OR TRANSLATION OF UPC TO LIST
N
ITEM ON LIST?
Y
207

FIG. 11

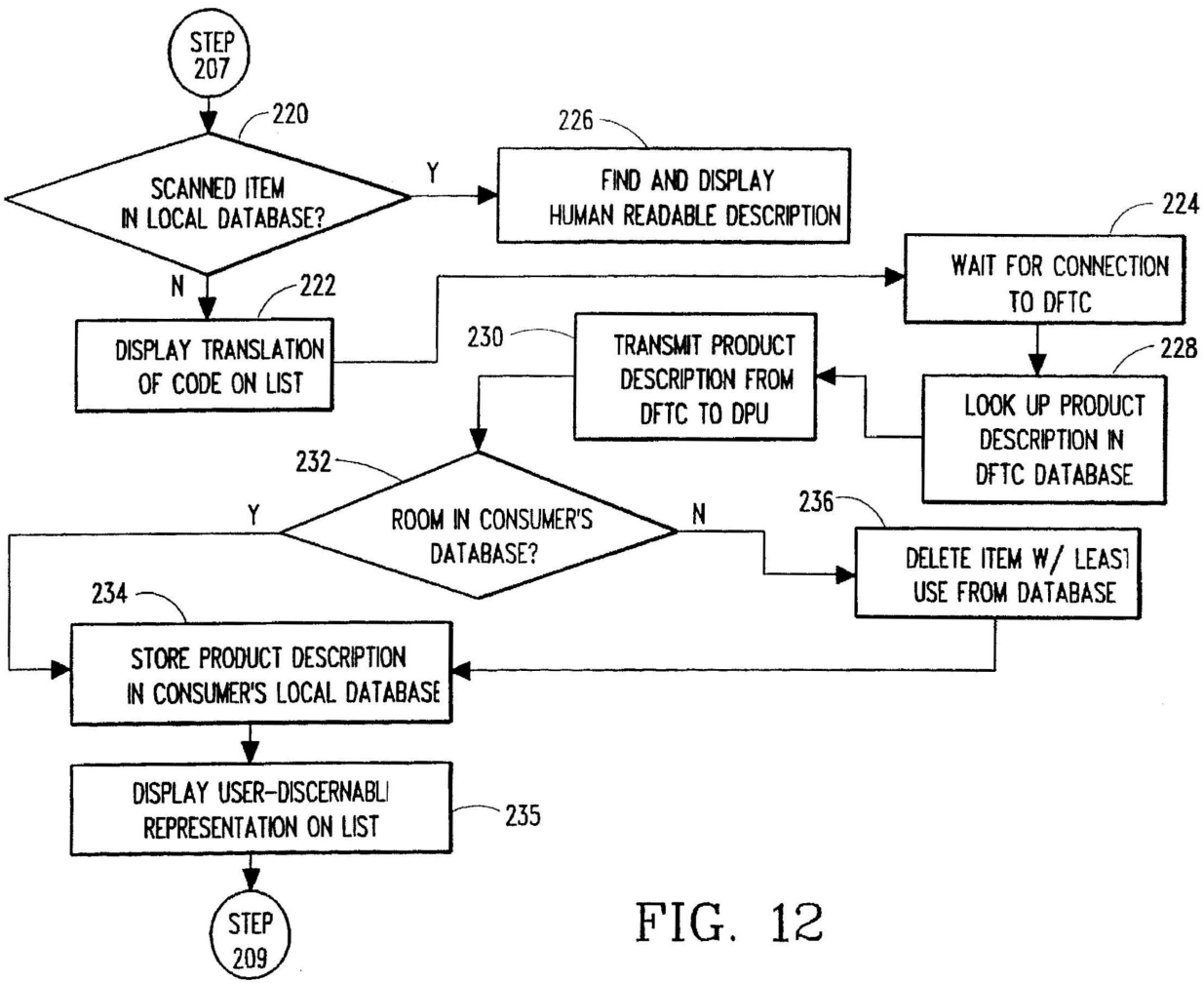

STEP 207
220
SCANNED ITEM IN LOCAL DATABASE?
Y
226
FIND AND DISPLAY HUMAN READABLE DESCRIPTION
N
222
DISPLAY TRANSLATION OF CODE ON LIST
224
WAIT FOR CONNECTION TO DFTC
230
TRANSMIT PRODUCT DESCRIPTION FROM DFTC TO DPU
228
LOOK UP PRODUCT DESCRIPTION IN DFTC DATABASE
232
ROOM IN CONSUMER'S DATABASE?
Y
N
236
DELETE ITEM W/ LEAST USE FROM DATABASE
234
STORE PRODUCT DESCRIPTION IN CONSUMER'S LOCAL DATABASE
DISPLAY USER-DISCERNABLE REPRESENTATION ON LIST
235
STEP 209

FIG. 12

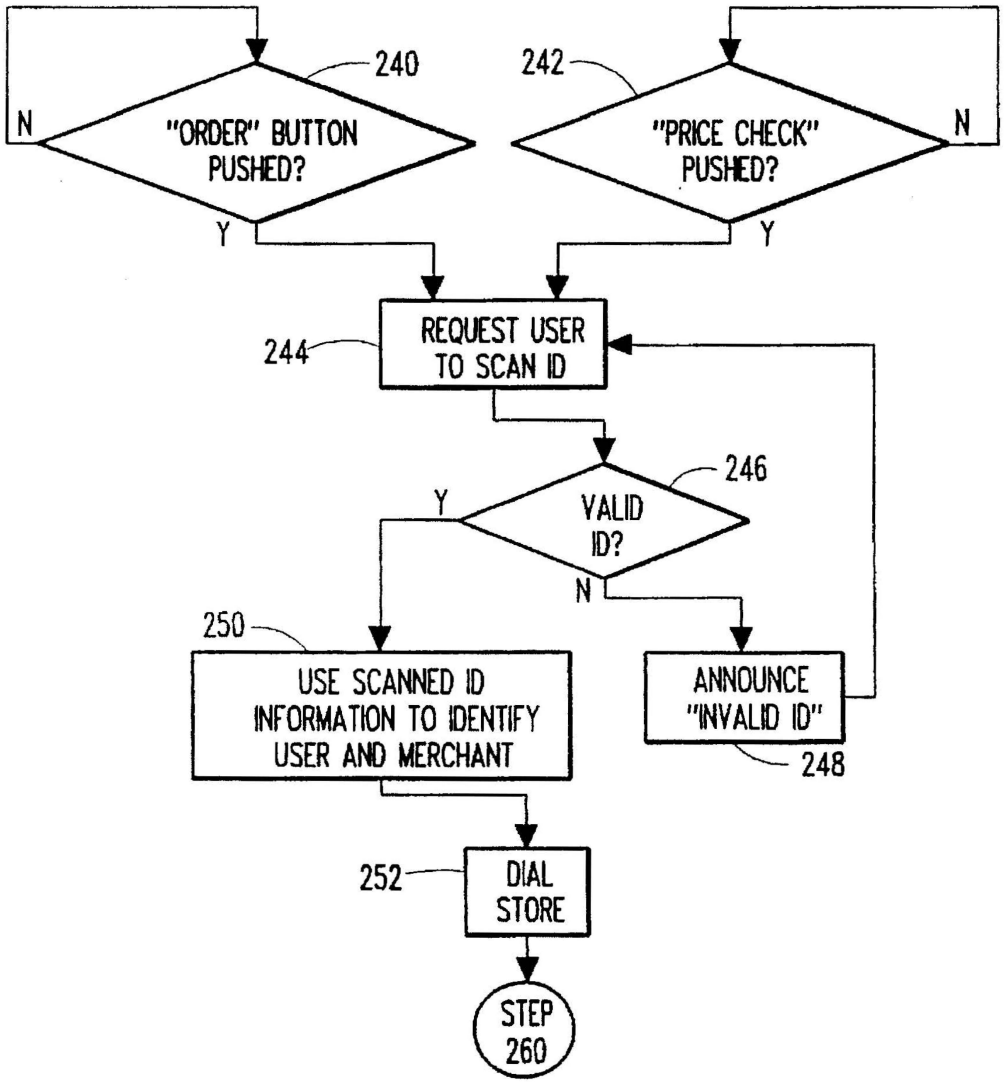

240
242
N
"ORDER" BUTTON PUSHED?
"PRICE CHECK" PUSHED?
N
Y
Y
REQUEST USER TO SCAN ID
244
246
Y
VALID ID?
N
250
USE SCANNED ID INFORMATION TO IDENTIFY USER AND MERCHANT
ANNOUNCE "INVALID ID"
248
252
DIAL STORE
STEP 260

FIG. 13

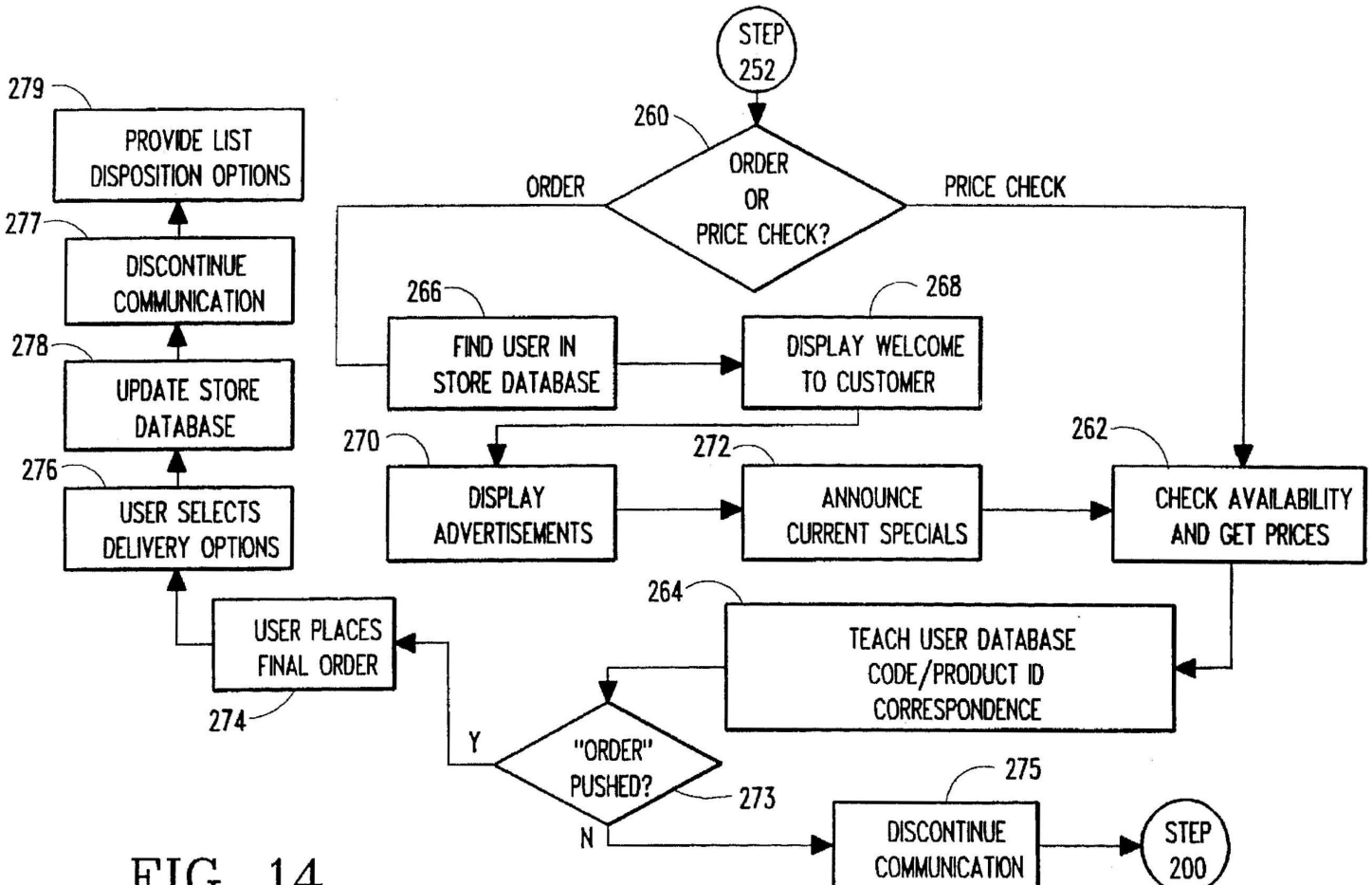

STEP 252
260
ORDER OR PRICE CHECK?
ORDER
PRICE CHECK
266
FIND USER IN STORE DATABASE
268
DISPLAY WELCOME TO CUSTOMER
270
DISPLAY ADVERTISEMENTS
272
ANNOUNCE CURRENT SPECIALS
262
CHECK AVAILABILITY AND GET PRICES
264
TEACH USER DATABASE CODE/PRODUCT ID CORRESPONDENCE
"ORDER" PUSHED?
273
Y
N
275
DISCONTINUE COMMUNICATION
STEP 200
USER PLACES FINAL ORDER
274
USER SELECTS DELIVERY OPTIONS
276
UPDATE STORE DATABASE
278
DISCONTINUE COMMUNICATION
277
PROVIDE LIST DISPOSITION OPTIONS
279

FIG. 14

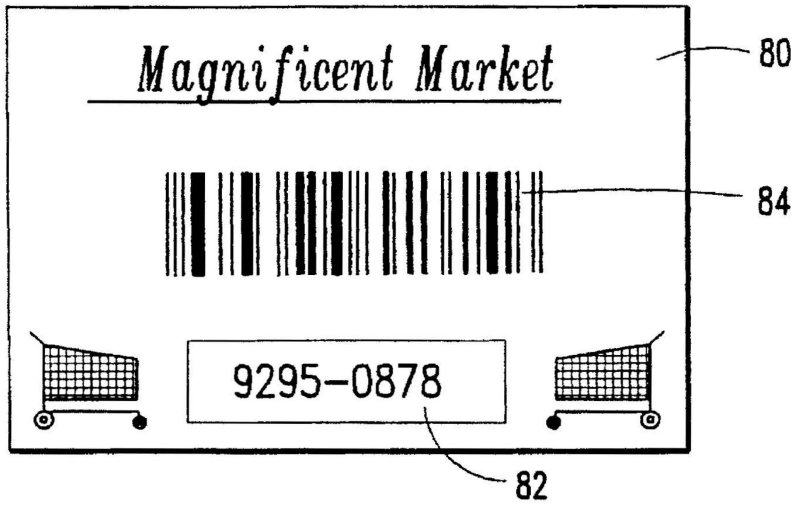


FIG. 15A

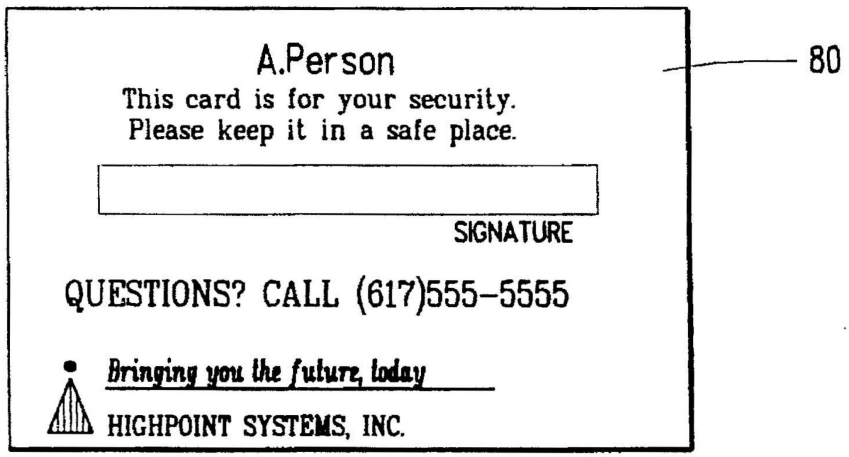


FIG. 15B

REMOTE ORDERING SYSTEM

FIELD OF THE INVENTION

The present invention relates to the field of remote ordering systems, and in particular to a remote ordering system which enables the building of a database of user-discernable product or service identification information within a user-accessible device.

BACKGROUND OF THE INVENTION

Remote ordering systems have been proposed for providing homeowners and business-persons the ability to order staple items from one or more merchants without the need to travel to a merchant location. However, such prior art systems have failed to provide the user with adequate information necessary for tracking or editing orders made or lists compiled.

Typically, prior art remote ordering systems provide some form of optical or magnetic scanner associated with a remote interface for reading coded product identification information found on product packaging. Most such systems, such as U.S. Pat. No. 4,654,482 (DeAngelis), provide an indication that a product code has been scanned, either via an audible tone or a visual indicator such as an LED. However, none of the prior art systems describes how to produce a user-interpretable description of the products placed in a list of items based on the scanned codes such as manufacturer and product name, product size, and product cost while such list is being constructed. For example, user-readable product descriptions are only provided in DeAngelis once an order list has been completed and conveyed to a merchant's order receiving apparatus, and only while connected to a merchant's order receiving apparatus.

SUMMARY OF THE INVENTION

A remote ordering system according to the present invention provides a user the ability to build and edit one or more order lists, resident in memory within a user device, and the further ability to review a user interpretable display of the contents of such lists. The present invention provides multiple merchant stock databases, a data format/transfer computer (DFTC) as an interface between customers and the merchant databases, and a user device referred to as a display/processor unit (DPU) at each of multiple customer sites for creating and transmitting order lists.

The DPU, in an illustrative embodiment, includes of a user identification code card and a data entry device providing desired item, user, and merchant data to the remainder of the DPU. To create an order list, an item code, provided by the data entry device, is checked against a DPU internal database. For instance, the item code can be provided by scanning an optical wand over a bar code. If user-discernable information corresponding to the item code, including product manufacturer, product description, and unit price, is in the DPU database, this information is displayed to the user via a DPU display. Else, the DPU communicates with the DFTC and thence to a specified merchant database to retrieve such user-discernable information, adds it to the DPU database, and updates the displayed list. In this manner, a DPU database of user-discernable product information (also referred to as user-cognizable identifiers) is created such that order lists, comprised of products or services to be ordered, can be visually reviewed, modified, and/or confirmed by the user without communication between the DPU and an associated DFTC.

Once the order list is complete, the user identification code card is provided to the data entry device. Coded information read from the card represents user name and address, merchant name and address, and other order specific information pertinent to this user and merchant, and is interpreted by the DFTC. The order list created within the DPU is processed in conformity with this coded information.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other features of the present invention are more fully set forth below in the fully exemplary detailed description and accompanying drawings of which:

FIG. **1** is a schematic representation of the remote ordering system according to the present invention;

FIG. **2** is a further schematic representation of the system of FIG. **1**;

FIG. **3** is a view of a first screen display on a display/processor unit (DPU) of the system of FIG. **1**;

FIG. **4** is a view of a second screen display on a DPU of the system of FIG. **1**;

FIG. **5** is a view of a third screen display on a DPU of the system of FIG. **1**;

FIG. **6** is a view of a fourth screen display on a DPU of the system of FIG. **1**;

FIG. **7** is a view of a fifth screen display on a DPU of the system of FIG. **1**;

FIG. **8** is a view of a sixth screen display on a DPU of the system of FIG. **1**;

FIG. **9** is a view of a seventh screen display on a DPU of the system of FIG. **1**;

FIG. **10** is a view of a eighth screen display on a DPU of the system of FIG. **1**;

FIG. **11** is a flow chart representation of a product input function of the system of FIG. **1**;

FIG. **12** is a flow chart representation of a database update function of the system of FIG. **1**;

FIG. **13** is a flow chart representation of establishment of a communication link in the system of FIG. **1**;

FIG. **14** is a flow chart representation of an interactive session in the system of FIG. **1**;

FIG. **15**A is a first side view Of a user identification control card employed in the system of FIG. **2**; and

FIG. **15**B is a second side view of the user identification control card of FIG. **15**A.

DETAILED DESCRIPTION

A remote ordering system according to the present invention and FIG. **1** includes at least one user device referred to as a display/processor unit (DPU) **10** or a remote ordering terminal, a data format/transfer computer (DFTC) **12** (also referred to as a central processing means or a central computer), and at least one merchant database **14** (also referred to as a central inventory database). In an exemplary embodiment used in the present description, one DPU **10** is in communication with one merchant database **14** through a DFTC **12**. However, it is envisaged that each system will typically have multiple DPUs **10** and merchant databases **14**.

While a discrete piece of hardware has been identified as the merchant database **14** in FIG. **1**, it is to be understood that throughout this document the merchant database **14** refers to a database of information not having one specific physical location. That is, the merchant database **14** can be

physically located within the DFTC **12**, within another computer or memory device located at the site of the DFTC **12** and connected thereto, or within a computer or memory device at a merchant location.

As illustrated in FIG. **2**, each DPU **10** is partially comprised of a data entry device **16** which provides coded information to the rest of the DPU **10**. In the embodiment of FIG. **2**, the data entry device **16** is made up of an optical scanning wand **20** having an RF transmitter **22** in communication with an RF receiver **24**, and made up of a bar code decoder **26**. It is intended that the scanning wand be passed over some form of bar code **41**, whether printed on packaging for a desired product, in a catalog of codes, on coupons, or printed on a credit-card sized identification control card. The specific bar code employed can be Code 128, Codabar, or one of the UPC (UPC-A, UPC-E) or EAN (EAN-8, EAN-13) codes, or any other code including system specific code. In any case, the received code is interpreted by the bar code decoder **26** to provide a common representation of the coded information, such as in ASCII format.

The RF linked scanning wand provides superior portability in a light-weight package. However, a number of other suitable devices are envisaged for the data entry device **16**. Specifically, an optical, hard-wired scanning wand **20** may be employed in lieu of the wand **20**, RF transmitter **22**, RF link **23** and RF receiver **24**. Thus, the link **23** can represent a path for optical, audio, RF, IR or any other energy capable of conveying information. Further, a portable optical scanning wand **20** having a limited amount of memory may be employed to gather and store coded information within the wand **20**. This scanned information is then transferred to the remainder of the DPU **10** by the appropriate link **23**. Further alternative embodiments of the data entry device **16** of the present invention employ a standard "QWERTY" keyboard or custom keypad in communication with the remainder of the DPU **10** for manual data input, or voice-recognition circuitry or magnetic stripe input means.

In a smart terminal version of the DPU **10** shown in FIG. **2**, a central processing unit (CPU) **30** and associated CPU control memory **32** manage the DPU **10** operations. In the illustrated embodiment, the control memory **32** is read-only memory (ROM). The other memory associated with the CPU **30** in this embodiment is a random access memory (RAM) **34**. This RAM **34** can be subdivided into a submemory for maintenance and storage of a database of user-discernable information correlating to user-input codes (also referred to as a database memory), a submemory for maintenance and storage of custom reference lists, and a submemory for maintenance and storage of one or more active ordering lists. The custom reference lists referred to include sublists which a user may wish to recall and incorporate into an order list currently being constructed. Examples of such custom reference lists include: a) a list of perishables regularly ordered from a grocery; b) a list of office products such as staples and paper regularly ordered from a stationary supplier; and, c) a list of dairy products regularly ordered from a dairy. User-discernable information, as referred to herein, includes descriptions of products or services selected by a user, typically including manufacturer, item name or description, unit size, and unit cost. Depending upon the item (product or service) selected, other information can be displayed to the user.

Note that in alternative embodiments, the DPU **10** can have only one memory such as RAM **34**, the CPU control functions being downloaded thereto upon communication with the DFTC **12**. Further, it is envisaged in alternative embodiments that the CPU control functions are both found in ROM **32** as well as in RAM **34**. Thus, the illustrated memory configuration is but one acceptable alternative.

A further alternative configuration for the DPU **10** includes a removable media interface associated with the RAM **34**. For instance, this interface can be a CD-ROM reader, a magnetic diskette reader, a PCMCIA card interface, or any other form of interface for a removable data storage element. This configuration thus enables the DPU **10** to have a database of user-discernable information correlating to user-input codes (the database memory) which can, at least in part, be updated en masse. The RAM **34** associated with the removable media provides storage for user-discernable information not found on the removable media, and provides storage for more current information associated with certain user-input codes than that found on the removable media. Thus, references herein to "a DPU database stored within a database memory in RAM" includes, in this alternative embodiment, a DPU database stored within a database memory in RAM and in removable media associated with the DPU.

Without establishing communications between the DPU **10** and the DFTC **12**, data from the data entry device **16** (referred to as input code) to the CPU **30** is checked against a DPU **10** database stored within a database memory in RAM **34**. If user-discernable information correlating to the input code exists within the database memory in RAM **34**, the user-discernable information is added to a list of products to be ordered being constructed within the RAM **34**. Simultaneously, the user-discernable information is provided to a display **36** under the control of the CPU **30** where the information is added to the displayed list of products being ordered. The CPU **30** is in charge of creating and displaying order lists on the display **36**. Note that the user-discernable information can be presented to the user as printed text, graphic images, or a combination of both. Thus, list building, reviewing, and/or modification is done on the DPU **10** without a communications link being established between the DPU **10** and the DFTC **12**.

Once the user has completed an order list, the CPU **30** can receive commands from the user via a command entry device **35** to convey the list to a merchant. The specific steps involved will be discussed subsequently. In an illustrative embodiment of the DPU **10** according to the present invention, the command entry device **35** is a display **36** having a touch-sensitive screen. This touch sensitivity can be implemented through an IR or heat sensitive display **36** or electrically conductive grids on the display **36**. Other embodiments of the command entry device **35** for transmission of user commands include touch-responsive icons on an electro-optical display **36**, programmable buttons located on the DPU **10** housing and proximate to the display **36**, and a keyboard attached to the DPU **10**. In yet another embodiment, the DPU **10** receives user instructions via a command entry device **35** such as a mouse, light pen, trackball or remote pointing device such as an air mouse, each either in wired or wireless communication with the DPU **10**, as appropriate. Further, the same device can be used to perform the functions of both the data entry device **16** and the command entry device **35**.

In response to these user instructions, the CPU **30** can command a modem **38** to establish telephone communications, either cellular or wired, with the DFTC **12**. Alternative embodiments of the present invention can employ interactive CATV, satellite communications, or fiber-optic data transmission for the link between the DPU **10** and the DFTC **12**. The DPU **10** is used to initiate an

interactive session with the DFTC **12** after an order has been compiled within the DPU **10**. The DPU **10** can also initiate an interactive session with the DFTC **12** when identification, price or nutritional information regarding a particular product is desired by a user and is not found within a DPU **10** database.

The DFTC **12** controls the flow of information between the DPU **10** and the merchant database **14** during such an interactive session. The DFTC **12** communicates with the merchant database **14** to ascertain product availability, product identification information such as name, container size, and nutritional data, and current product price. This information is then relayed back to the DPU **10** for display to the user and for addition to or substitution within the DPU **10** database. Depending upon the actual physical location of the merchant database **14**, this communication can be a telephonic serial data transfer, a serial or parallel transfer of information over a data bus or link, or a serial transfer of information over a communications network such as the Internet. Other known communication means are envisioned.

The DFTC **12** also interprets information entered from user identification control cards **40** reflective of user and merchant identification. Typically, these identification control cards **40** provide information from which merchant name and location, user name, address and account number, payment arrangements, preferred product delivery option, and consumer profile can be determined. In alternative embodiments of the present invention, the DPU **10** has such user and merchant identification pre-stored therein, such that the user selects a merchant from a displayed menu of merchants. The appropriate account number, preferred delivery mode, etc. can then be automatically selected, or the user can choose an account number along with other appropriate parameters from another displayed menu. In any case, information identifying the user and the desired merchant, among other transaction specific information, is referred to as a transaction identifier or as identifier means.

The DFTC **12** also provides advertising to the display **36** pertinent to the merchant being accessed and potentially according to the user profile. This advertising draws the attention of the user to special sale items. An exemplary advertising screen will be discussed in conjunction with FIGS. **7** and **8**. Other information can be conveyed in addition to or in place of advertising. For instance, a message indicative of an available credit limit or past due payments can be displayed, as well as a summary of payment or delivery options selected.

As depicted in FIG. **2**, the DFTC **12** serves as an intermediary between the DPU **10** and one or more merchant databases **14**. Note that, as shown in FIG. **1**, more than one DPU **10** can be in communication with any one DFTC **12**, and thence to a plurality of merchant databases **14**. Typically, a DFTC **12** will access a merchant database **14** upon receipt of an order from a DPU **10**. The computer **12** can verify that the merchant database **14** reflects availability of a sufficient quantity of the items requested and can confirm the preferred mode of payment and order delivery, both for the user and the merchant, by searching the merchant database **14**. The DFTC **12** can also access the merchant database **14** upon receipt of a request from a DPU **10** to update the DPU database memory in RAM **34**.

Note that the communication links between an individual DPU **10** and an associated DFTC **12**, and between the DFTC **12** and a merchant database **14**, need not be concurrently established. Thus, if the communications link between the DFTC **12** and the merchant database **14** is unavailable for any reason, the DPU **10** is not tied up pending successful establishment of this link. The DFTC **12** can, as a result of periodic communications with the merchant database **14**, supply the DPU **10** with the requested information. Further, the DFTC **12** can cause an indication to be displayed on the DPU **10** that the user should attempt the operation requiring DFTC-merchant database communication again at a later time.

If the DPU **10** has never been used to order a particular item and if the DPU **10** database was not preloaded with user-discernable information relating to the particular time, the DPU **10** database stored in RAM **34** will be unable to provide the user with a user-discernable interpretation of the product identifying code and/or a most-recent per unit cost, since list building is ordinarily performed "off-line", or in the absence of DPU **10**-DFTC **12** communications. Instead, the DPU **10** can display, for instance, a numerical representation of the scanned code information. Under most circumstances, this information will be of little use to the DPU **10** user, who can command the DPU **10** to search the merchant database **14** via the DFTC **12** for user-discernable product description. In an alternative embodiment, price information can also be returned in conjunction with the user-discernable product information. As noted, the returned user-discernable information, including unit cost if desired, is stored within the DPU **10** database in the database memory within RAM **34**, and is substituted for the numerical representation on the DPU display **36**.

In a further alternative embodiment of the present remote ordering system, each DPU **10** may be issued to a user with a pre-programmed DPU database stored within RAM **34**. Such a database stored therein can include common household staple items such as milk, bread, butter, etc. for a DPU **10** to be used primarily for grocery ordering, though other items are envisaged depending upon the intended use. Thus, in addition to being delivered with an empty database in RAM **34**, a DPU **10** may come with a standard pre-programmed database in RAM **34**, a pre-programmed database in RAM **34** configured for a particular user, or a pre-programmed database in RAM **34** configured for a particular merchant.

In yet another embodiment of the present invention, if a DPU **10** user believes a price associated with a displayed product description is out-of-date, the user can command the DPU **10** to update the price in the DPU database within RAM **34** by accessing the merchant database **14** via the DFTC **12**. The merchant database **14** can indicate the current price, which the DFTC **12** returns to the DPU CPU **30** for substitution into the database in RAM **34**. The merchant database **14** can also return information on alternative products if ordered products are out of stock or are not carried by that merchant.

The steps involved in updating the DPU **10** database are further explored in conjunction with exemplary display screens and operational flow charts, as described below.

The DPU **10** can also have an associated printer **42** as illustrated in FIG. **2**. This enables a user to make a hard copy of one or more order lists prior to list deletion. The printer **42** can be housed within a DPU **10** housing, or can be a peripheral device attached to the DPU **10** housing. Other peripheral devices which can be employed with the DPU **10** include but are not limited to a magnetic memory read/write device such as a disk drive, PCMCIA cards, a magnetic stripe card reader, or a voice recognition circuit and associated hardware.

In addition to printing a processed order list, the order list can be stored within the DPU RAM **34**. Thus, as described above, custom reference lists can be created for frequently ordered items. These lists can be periodically recalled from database memory **34** by the user, edited according to the user's present needs, used as the basis for a new order, and stored anew. Alternatively, the newly modified list can be discarded, leaving the original list in memory **34**. In this manner, a number of useful lists can be created and stored within database memory **34** for subsequent retrieval and use by a user. Further, one list can serve as the basis for a number of lists, each developed according to products offered by a respective merchant.

In FIGS. **3–10**, exemplary DPU display screens are illustrated, roughly following a sequence of steps involved in creating and submitting an order list. Note that variations in the format and order of the illustrated screens is within the scope of the present invention. These figures will also be discussed in conjunction with flow charts depicted in FIG. **11–14**, in which the operation of the remote ordering system according to the present invention is mapped.

FIG. **3** illustrates a typical order entry screen **50**. It is envisaged that the DPU **10** will typically remain in an "ON" state, even when not in use, waiting for an order to be added to an open order list **52**, though minimal power will be consumed. No communications link is established between the DPU **10** and the DFTC **12** during the building of an order list. Thus, when a user determines that a particular product is needed, or will soon be needed, a user must only input a desired product identifying code such as by scanning the wand **20** across a bar code. In one embodiment of the DPU **10**, a screen saver function may be implemented which blanks the display **36** after a predetermined amount of idle time. Thus, it is preferred that the DPU **10** is "ON" and has an order list on the display **36** at an initial step **200** in FIG. **11**.

In the illustrated embodiment of FIG. **3**, once an item has been added to a current product order list **52**, response icons **62** are provided along the bottom of the display **36**, though it is understood that the icons **62** could be disposed in other locations within the display **36**. The icons **62**, also referred to as command entry devices **35**, are virtual buttons provided on the display **36** and are responsive to touch from a finger or stylus, or to light from a light wand (depending upon the embodiment of the display **36**), and in the illustrative embodiment include increment/decrement icons **54**, **56** for adjusting the listed quantity associated with a highlighted item **58**. Activation of the icons **62** is represented at steps **202** and **204** of FIG. **11**.

As illustrated in steps **206**, **207**, **208**, **209**, **210**, **211**, **212** and **213**, an item is added to the order list **52** by scanning the product code. If the item is not on the order list **52** already, a user-discernable description of the item is entered onto the bottom of the list **52** if such description exists with the database, and the description becomes the highlighted item **58**. In the alternative embodiment as described above, a unit price taken from the database in the memory **34** also appears within the order list **52**. The order cost total is then updated. Note that while not illustrated, the DPU **10** is capable of calculating applicable sales tax and adding this amount to the total cost. Flags associated with each product in the database in RAM **34** would provide an indication to the DPU **10** that the item is subject to local sales tax. Note further that if all items on the current order list do not have corresponding user-discernable descriptions and associated prices, no total will be calculated at step **210**.

An item already on the order list **52** can also become the highlighted item **58** by manipulation of arrow icons or keys (not illustrated) disposed proximate the response icons **62** or fabricated on the DPU **10** housing, or by activating the product description of the item on a touch sensitive or electro-optical display **36**. Highlighting an item already on the order list **52** as described, followed by activating either the "+" icon or the "–" icon, causes the quantity ordered to increment or decrement. Alternatively, scanning the highlighted item causes the quantity ordered to increment. Once incremented, the total cost is updated based upon the number of incremented items and the unit cost per item. This description of how a product is added to an order list **52** assumes that a user-discernable description corresponding to an input product code exists in the DPU **10** database, and is represented schematically by steps **220** and **226** of FIG. **12**.

In the case where the desired item is not in the DPU **10** database, step **207** of FIG. **11** would further include steps **220**, **222**, and **224** of FIG. **12**. Having scanned such an item, the DPU **10** provides a translation of the scanned code in place of a user-discernable product description in the display **36**. No unit price is displayed. Note also that only this translation of the scanned code is derivable from the scanned code. The translation is distinct from the user-discernable representation of the scanned product provided by the DPU **10** database, the latter being in no way directly derivable from the product code. The translation remains in the order list **52** until communication between the DPU **10**, DFTC **12**, and merchant database **14** is initiated.

Once such a DPU **10** to DFTC **12** communication has been initiated, each ordered product or service placed on the order list being compiled not having a user-discernable representation in the local DPU **10** database is scanned for in DFTC memory. The associated user-discernable representation is then returned by the DFTC **12** to the DPU **10** for storage within the DPU **10** database in RAM **34**.

In the alternative embodiment of the present invention in which unit price data is available to the user, activation of a price inquiry icon **60** also causes the DFTC **12** to return a user-discernable product description and current unit price from the merchant database **14** to the DPU display **36** for those items having a translation of the respective item code on the display **36** and not having a user-discernable product description in the DPU **10** database, as indicated in steps **228**, **230**, **232** and **234** of FIG. **12**. This product description and price information will also be added to the DPU **10** database in RAM **34**. Of course, such information cannot be supplied if the product is not found within the merchant database **14** or the DFTC **12**. If not found within the DFTC **12**, communication is initiated between the DFTC **12** and the merchant database **14** to provide such information.

In a further alternative embodiment of the ordering system according to the present invention, the user can request nutritional information on one or more items found on a current order list. In place of or in addition to the price inquiry icon **60**, the DPU **10** may provide a nutritional information icon (not shown). As with the price inquiry icon **60**, information pertaining to a highlighted product will be returned from the DFTC **12**. The user can further be provided with the ability to request nutritional information on other items on the order list at that time, or on comparable items supplied by the merchant involved in the proposed transaction.

Each time product information is updated via activation of the price inquiry icon **60** or via initiation of an order, a product information access date in the DPU **10** database associated with each item on the order list **52** is updated along with any new product identification and unit price

information provided by the merchant database **14**, as noted in step **230** of FIG. **12**. In a first embodiment, if insufficient memory space exists within the DPU database to add a new product description and associated unit price, or if a predefined maximum size for the DPU **10** database would be exceeded by adding this new information to the database, the CPU **30** determines the oldest, or least accessed, product information based on access date. This oldest information is aged out, or deleted, from the database until sufficient room exists within RAM **34** to substitute in the new product information, as indicated in steps **236** and **234** of FIG. **12**. This creation of space within RAM **34** is referred to as database "aging". Once the user-discernable information is stored within the DPU database, it can be displayed within the displayed list, as indicated by step **235** of FIG. **12**.

In another embodiment, the CPU **30** can automatically age out information based upon frequency of use. Further, products or services can be organized within classes, with each class having its own aging parameters. Alternatively, the present invention can rely upon user intervention for decisions as to which information should be deleted from memory.

Other response icons **62** include the price inquiry icon **60** in an alternative embodiment. Since the DPU internal database within RAM **34** can contains product prices as of the date of the last order or price inquiry, a user may wish to determine the most up-to-date unit prices. Activating this icon **60** initiates communication between the DPU **10** and the DFTC **12**, the latter providing the desired unit prices for all of the items on the order list **52**. A more detailed description of the steps involved in the initiation of the communication between the DPU **10** and the merchant database **14** is provided in conjunction with the discussion of FIG. **13**, below.

Another response icon **62** which can be provided to a user via the DPU display **36** is an option list icon **64**. In the embodiment illustrated in FIG. **3**, this option list icon **64** is labelled "PERISHABLES" and when activated provides a list of frequently ordered perishables taken from the DPU internal database within memory **34**. In an alternative embodiment, activation of an option list icon **64** invokes communication between the DPU **10** and the merchant database **14** via the DFTC **12**. The merchant database **14** is prompted by the DFTC **12** for an option menu, containing names of sub-menus available, provided to the user at the DPU display **36**. For instance, if the merchant is a grocery store, the option menu can include sub-menus labelled "butcher counter", "delicatessen", "fruits", "vegetables", etc. Selection of one of these sub-menu options would result in a menu of products (and associated unit prices in the alternative embodiment) appropriate to the chosen sub-menu.

In a further embodiment of the present system, the user can scan a bar code or other machine readable code, as appropriate to the data entry device **16** or command entry device **35**, in order to invoke such sub-menus. For example, the user may wish to order butter, but may not know which brand is most suited to the user's needs. By scanning a bar code labelled "butter" on a printed menu, a sub-menu similar to those described above can be displayed, providing the user with a range of butter products to choose from. Of course, this embodiment is equally applicable to other products or services, depending upon the application for the system.

In FIG. **4**, a general list of perishables has been requested. This display can be the result of activation of the option list icon **64** labelled "PERISHABLES" in FIG. **3**, and can be the result of a suggested or typical shopping list provided by either the merchant during programming of the DPU **10** or by the supplier of the DPU **10**. Alternatively, the user can create its own custom list to be displayed upon selection of the appropriate icon from an option list.

In the exemplary embodiment of FIG. **4**, the user has chosen two items from this option list **68** of perishables, including "FRESH SALMON" and "BANANAS" as indicated by an "X" in icons **66** associated with these items. Again, these icons **66** can be touch-sensitive or electro-optical. Once the user is satisfied with the selections made from this option list **68**, the "OK" icon **70** is activated and the chosen items are added to the currently active order list **52**, as shown in FIG. **5**. Note that the highlighted item **58** in the order list **52** is now the last item from the option list **68** in FIG. **4**.

Once an order list **52** is complete and a user wishes to place an order with a merchant, an "ORDER" response icon **72** is activated. Note that this icon **72** can be otherwise labelled and located. This initiates communication between the DPU **10** and the DFTC **12**, which typically has access to a number of merchant databases **14** as depicted in FIG. **2**, and as represented by step **240** in FIG. **13**. Note that the sequence of steps taken in establishing communication between the DPU **10** and the DFTC **12** is identical to the sequence of steps initiated by activation of the price inquiry icon **60** of FIG. **3**, as represented by step **242** in FIG. **13**.

In the illustrated embodiment, to determine which of multiple merchants to order from and to determine the identity of the user, the DFTC **12** causes the DPU **10** to provide a prompt screen **76** on the DPU display **36**, shown in FIG. **6**, represented by step **244** of FIG. **13**. Each user has at least one identification control card **80** for each merchant with which the user has a remote ordering account. The identification control card **80**, which carries a user number **82**, can resemble a credit card, as illustrated in FIGS. **15**A and **15**B. The identification control card **80** can additionally or alternatively carry a coded representation **84** of the user number **82**.

As noted, the user identification control card **80** represents information regarding the merchant to be interfaced with, typically including but not limited to merchant location and account number, and further represents user information such as user name and address, delivery preference, and user profile. Security is thus provided to both the merchant and the user, since only users having valid identification control cards in their possession can initiate an order and charge to a particular account. Additional security means, such as the implementation of a call-back system or use of user-entered PIN numbers, can be incorporated into the present system.

In an alternative embodiment in which DPU **10** access security is not of heightened concern, the DPU **10** can have a code stored within the DPU **10** corresponding to a user's account number, profile, etc. as well as merchant information such as telephone number and address. The desired merchant is then chosen from a submenu of merchants.

Regardless of the means for providing user and merchant information to the DPU **10** and thus to the DFTC **12**, such information is provided only in a coded format. For instance, each user has one code assigned to him or her. Merchant account numbers, user profiles, etc. are stored within the DFTC **12**, and are accessed by the user code. Similarly, each merchant has a code. All information pertaining to each merchant is similarly stored within the DFTC **12** and can be made available to the user via the DPU **10**.

The prompt screen **76** results in input of the user number **82** or the coded representation thereof **84** into the DPU **10**. In FIG. **6**, the DPU **10** is indicating that the user should pass a scanning wand **20** over the coded representation **84** of the user identification control card **80**. The CPU **30** is able to interpret the coded information provided by the identification control card **80** via the data entry device **16** to make an initial determination whether the identification control card is valid, as depicted in step **246** of FIG. **13**. If the identification control card **80** is determined to be not valid, a message to that effect is provided to the display **36** for a limited time before the prompt screen **76** is redisplayed, as in steps **248** and **244** of FIG. **13**. However, if the validity of the identification control card **80** is confirmed by the CPU **30** as represented by step **250** and **252** of FIG. **13**, the DPU **10** uses the identification control card **80** information to identify the merchant database **14** to be interfaced and communicates with the DFTC **12**, which in turn accesses the appropriate merchant database **14**.

How a merchant database **14** reacts to communication initiated by a DPU **10** depends on whether the communication is a result of a price inquiry (activation of a price inquiry icon **60**, FIG. **3**) or of an order command (activation of an order icon **72**), as shown in step **260** in FIG. **14**. As discussed, if a user is merely requesting a price inquiry (step **242**), information is requested from the identification control card **80** for identification of the proper merchant database (steps **244** and **250**, FIG. **13**). The CPU **30** then indicates to the DPTC **12** that availability and price information is being requested for the items in the order list **52** (step **252**, FIG. **13** and step **262**, FIG. **14**). The DFTC **12** searches the merchant database **14** for accurate product description information, unit price, and product availability, and returns this information to the DPU **10**. If each product on the order list **52** had previously been ordered, and therefore a user-discernable product description is already associated with the corresponding product code in the DPU database in memory **34** for each product, the relevant product descriptions and unit prices are updated, if necessary, and the access dates are updated. If a user-discernable product description is not in the DPU **10** database and the user has requested a price inquiry, such user-discernable product information, along with current unit price, is initially downloaded to the DPU **10** database. The latter step is referred to as "teaching" the DPU **10** database. This corresponds to step **264** in FIG. **14**.

Once all items in the current list have been checked for validity and updated, if necessary, the price inquiry procedure is terminated, and the DPU **10** returns to an item entry state (steps **273** and **275**, FIG. **14**).

On the other hand, if the user has indicated a desire to place an order by activating the order icon **72**, several intermediate steps are taken, as illustrated by steps **266**, **268** and **270** of FIG. **14**. The user is first identified to the merchant database **14** according to the information provided by the scanned identification control card **80**, as shown in FIG. **13**. If there is nothing barring trade with this user, a greeting screen **90** can be provided on the DPU display **36**, as illustrated in FIG. **7**. The greeting screen **90** can be customized according to the merchant, and can include general information such as hours of operation, store locations, or advertising in a portion **92** of the DPU display **36**. Alternatively, user specific information can be provided, including account status, availability of frequently ordered products, or other personalized messages. The greeting screen **90** can remain on the display **36** for a pre-programmed time, or can remain displayed until the user takes some action, including activation of a response icon similar to those in FIG. **3**.

A promotional screen **100** can be provided to the user as depicted in FIG. **8** and as represented by step **272** of FIG. **14**. This screen **100** illustrates the ability to inform the user of special promotions which the merchant is offering. As shown, a window **102** of promotional items **110** provides both information regarding the items **110**, as well the opportunity for the user to add these items **110** to the present order list **52**. Icons **104** associated with the promotional items **110** enable such order list **52** addition. Other response icons can be provided to give the user various options regarding the purchase of the promotional items **110**.

Promotional screens **110** such as the one illustrated in FIG. **8** can be the result of merchant database **14** providing the DFTC **12** with specials to be advertised for a given period. In this case, the merchant database **14** provides advertising information to the DFTC **12** on a regular, periodic basis. In another embodiment of the present system, advertising information is provided to the DFTC **12** when the DFTC **12** contacts the merchant database **14** as a result of either a price inquiry or an order command. The advertising prompted by the merchant database **14** can be either generic in nature, that is, applicable to all users, or can be customized to the individual buying patterns of the user in question.

Also shown in FIG. **8** is a reminder indication **108** which informs the user that the DPU modem **38** is presently in communication with the DFTC **12** using the user's telephone line. As with other messages provided to the DPU display **36**, this reminder indication **108** can be in reverse video, and can be blinking on and off at a rate chosen to gain the attention of the user. While not shown in other illustrative screens provided to the user during telephonic communication between the DPU **10** and the DFTC **12**, this or an analogous message may be employed somewhere on the DPU display **36**.

After the promotional screen **100**, the user can be provided with another opportunity to review the items compiled in the present order list via a screen similar to that illustrated in FIG. **5**. This is of particular use if one or more items on the list were not previously in the DPU internal database. In such case, the user would have been provided with a numeric representation of the input product code prior to communication with the merchant database **14**. After communication, a user-discernable representation of the product code would be substituted into the order list **52**, thus enabling the user to confirm an order of the item. These user-discernable representations will also be entered into the DPU database within RAM **34** for future use, as indicated by steps **262** and **264** of FIG. **14**.

Similarly, the unit price for items in the order list is updated according to current prices as provided by the merchant database **14** to the DFTC **12**, both on the DPU display **36** and in the DPU internal database in RAM **34**.

Once the order list has been reviewed and confirmed, the user can command the DPU **10** to execute the order, as in steps **273** and **274** of FIG. **14**. This can be done by user activation of a response icon **62** such as the icon **72** labelled "ORDER" in FIG. **5**, or by activation of other similarly labelled response mechanisms. The DPU modem **38** conveys the execution order to the DFTC **12**, which can then provide the user with option screens such as a delivery option screen **120**, shown in FIG. **9** and step **276** of FIG. **14**. The user is thus provided with the opportunity to specify how the ordered products are to be conveyed. In FIG. **9**, the

user has activated a response icon **122** directing that the order be held for pick-up. The order list is then provided to the merchant from the DFTC **12** telephonically via voice, in hard copy, on magnetic media, or telephonically via a modem. It is further envisaged that the order list is conveyed electronically to the merchant such that the merchant is able to update the merchant's inventory control system automatically based on the order list.

Once the user has responded to whatever option screens are provided, depending upon the configuration of the ordering system, telephonic communication between the DPU **10** and the DFTC **12** is terminated, as in step **277**. From the point of view of the user, a final step in the ordering process can be a list disposition option screen **130**, as shown in FIG. **10**. This screen **130** provides the user with the ability, through the use of response icons **134**, to print the current order list **52**, to generate a new blank order list, to return to the order list **52** just completed, or to store the order list **52** within RAM **34**, as reflected in step **279** of FIG. **14**.

In an alternative embodiment, the list disposition option screen **130** can provide the user the opportunity to store the current option order list **52** as one of several user selectable order lists. Such an alternative embodiment can further provide the user the ability to recall one of several stored order lists. An option menu can provide a textual description of stored order lists available, or such stored lists can be made available via descriptive icons.

From the point of view of the merchant database **14**, the final step in the ordering process, as reflected in step **278** of FIG. **14**, is to update the merchant database **14** to reflect the user order just processed. Thus, in addition to providing a convenient way for a user to compile and order a list of needed products, the present system enables automated maintenance of merchant inventory.

The foregoing description of the remote ordering system according to the present invention has been described with reference to an individual user ordering products, specifically groceries. It should be understood that the present system is in no way limited in product applications to a single user ordering groceries. Rather, the user can be multiple employees of a commercial customer, and the products being ordered can be regularly ordered items such as office products. Further, there is no limitation to products; the present system can also be employed to order services from a variety of sources. Examples of products and services which can be ordered using the present invention include video rental, dry cleaning and laundry, snow removal, lawn mowing, prescriptions, and overnight delivery services.

The greeting screen **90**, the promotional screen **100**, and the delivery options screen **120** have each been described as discrete screens to be sequentially provided on the DPU display **36**. However, it is understood that one or more of these screens may be combined with other displayed information in order to provide some or all of the referenced information and capabilities to the user in other combinations.

The physical embodiment of the ordering system of the present invention has been described as a DPU **10** having various user activated response icons or command entry devices **35** located within the display **36**, such as the icons **104**, **106** illustrated in FIG. **8** and the icons **134** illustrated in FIG. **10**. It has been noted that these icons can be provided as IR touch-sensitive, electrically conductive touch-sensitive, or electro-optically responsive. The function of the response icons or command entry devices **35** can also be performed by software programmable function keys disposed about the periphery of the DPU display **36**. However, in order to minimize DPU **10** unit cost and to simplify the appearance and operation of the DPU **10**, response icons such as those referenced above are preferred.

In an alternative embodiment to the DPU **10** as illustrated in and discussed with respect to FIG. **2**, the DPU **10** is a dumb terminal which must be in communication with the DFTC **12** in order to provide user-discernable representations of scanned items. Thus, the database of such representations is found within the DFTC **12**, rather than in the DPU **10** RAM **34**. In such a configuration, database updating can be executed upon scanning an item at a DPU **10**, at a regular interval with each or selected merchants, or at the time of execution of an order, price inquiry, or request for nutritional information.

In a further alternative to the embodiment described above, it is envisaged that the system of the present invention can be responsive to a bar code or other machine readable code such that a number of items are added to an order list currently being constructed. For instance, a recipe can have an associated bar code printed with it. Once scanned, the bar code is used to locate a number of products associated with the scanned code representing various ingredients needed for the preparation of the recipe. The user can then determine if any of the ingredients are on hand and can thus be removed from the list prior to commanding an order. Note that the ingredients are added to the displayed list in user-discernable format. Thus, the list of contents for each recipe is treated as an individual item by the DPU **10**, described above. If the recipe has not been "learned" by the DPU **10** database in RAM **34**, the DPU **10** will communicate with the DFTC **12** in order to learn the ingredients of the recipe. If the database is too full to learn the recipe ingredients, the database will "age-out" the earliest stored and least used item or recipe, as described above. Of course, this alternative embodiment for the present system can be applied to other products and services, depending upon the nature of the goods ordered via the DPU **10**, and is not limited to recipes.

These and other examples of the concept of the invention illustrated above are intended by way of example and the actual scope of the invention is to be determined from the following claims.

What is claimed is:

1. A remote ordering terminal for providing at least one list of at least one item or group of items to a remotely located order processing system associated with one or more merchants on each of a plurality of occasions, each item or group of items having an item code associated therewith, said remote ordering terminal comprising:

user and/or merchant identifier means;

at least one data entry device for providing said terminal with said item associated item codes and with data from said user and/or merchant identifier means;

a database unit providing a user-specific database including user-discernable item data associated with item codes for user-selected items or groups of items;

memory to provide storage for said user-specific database, said memory in communication with said at least one data entry device for storing said at least one list;

communication means for associating said memory and said order processing system upon user command for remotely accessing said order processing system over a multi-user network, for transmitting said at least one list to said order processing system using said data from said user and/or merchant identifier means, and for

receiving new and/or replacement user-discernable item data from said order processing system during association of said memory and said order processing system, said new and/or replacement user-discernable item data corresponding only to said at least one item or group of items of said at least one list;

a message display portion in communication with said memory and said user-specific database for displaying order pertinent information including said user-discernable item data from said memory; and

at least one command entry device responsive to user selection of items from said order pertinent information for assembling said at least one list and for enabling said user command, resulting in said transmitting of said at least one list to said order processing system,

wherein said at least one list is comprised of an order to be processed by said order processing system, or a provisional order list transmitted to said order processing system, transmission of either resulting in on-demand receipt of said new and/or replacement user-discernable item data within said user-specific database for said at least one item or group of items.

2. The terminal according to claim **1**, wherein said identifier means comprise data necessary for accessing said order processing system by a user including user account number.

3. The terminal according to claim **2**, wherein said identifier means are disposed within said remote ordering terminal memory.

4. The terminal according to claim **3**, wherein said identifier means are selectable by said user from a list of said identifier means stored within said remote ordering terminal memory.

5. The terminal according to claim **2**, wherein said identifier means are disposed external to and independent from said remote ordering terminal memory.

6. The terminal according to claim **1**, wherein said at least one data entry device comprises bar code detection and analysis circuitry.

7. The terminal according to claim **1**, wherein said identifier means are selectively associated with said at least one data entry device for machine recognition of said identifier means.

8. The terminal according to claim **1**, wherein said at least one data entry device is selected from a group consisting of a keyboard, a keypad, a magnetic stripe reader, and a voice recognition circuit.

9. The terminal according to claim **1**, wherein said memory is random access memory.

10. The terminal according to claim **1**, wherein said memory further stores at least one previously user-compiled list.

11. The terminal according to claim **1**, wherein said user-discernable database is stored within said memory.

12. The terminal according to claim **1**, wherein said terminal further comprises a processor in communication with said memory, said at least one data entry device, said communication means, said user-specific database, said message display portion, and said at least one data entry device.

13. The terminal according to claim **1**, wherein said user-discernable item data includes nutritional data applicable to a corresponding item code.

14. The terminal according to claim **1**, wherein said user-discernable item data includes a pictorial representation of an item having a corresponding item code.

15. The terminal according to claim **1**, wherein said order pertinent information includes promotional information provided by said order processing system to said remote ordering terminal via said communication means.

16. The terminal according to claim **1**, wherein said at least one command entry device and said message display portion collectively comprise a touch-sensitive display disposed within said remote ordering terminal.

17. The terminal according to claim **1**, wherein said at least one command entry device is selected from the group consisting of a mouse, a light pen, a trackball, and an air mouse.

18. The terminal according to claim **1**, wherein said at least one data entry device and said at least one command entry device are the same at least one device.

19. The terminal according to claim **1**, wherein said command entry device comprises at least one function key disposed within said remote ordering terminal.

20. The terminal according to claim **1**, wherein said memory comprises a removable media interface for interfacing removable media.

21. The terminal according to claim **20**, wherein said user-specific database is stored within said removable media.

22. A method for remote ordering at least one desired item by a user from one of a plurality of merchants using a system having a user device, a central computer, one of a plurality of merchant databases, and a communications link including a multi-user network, said at least one desired item having a unique identifying code associated therewith, the method comprising:

storing for a plurality of user-specific items, in an identifier database accessible at said user device for user perception at said user device, a user-cognizable identifier of said at least one item corresponding to said identifying code;

user inputting said identifying code corresponding to said at least one desired item into said user device by machine recognition of said user input identifying code;

accumulating from said identifier database selected ones of said user-cognizable identifiers corresponding to said input identifying codes in at least one list of desired items;

selectively associating a transaction identifier having user and/or merchant identifications with said user device to identify a selected merchant database and/or to identify said user to a selected merchant database;

commanding said user device to establish remote communication between said user device and said selected merchant database corresponding to said merchant identification through said central computer over said communications link including said multi-user network;

interactively updating only said selected one of said user-cognizable identifiers in said identifier database of user-specific items with current information provided by said merchant database over said communications link in response to a user action at said user device, said user action including

the communication of a provisional list of desired items transmitted to said selected merchant database for the purpose of providing said interactive updating, or

the communication of an order list of desired items transmitted to said selected merchant database for the purpose of providing said interactive updating and remote ordering said desired items comprising said order list; and

passing transaction specific information over said communications link including said identifying codes between said user device and said selected merchant database.

23. The method according to claim **22**, wherein said step of user inputting said identifying code includes scanning said identifying code with a bar code reader in communication with said user device.

24. The method according to claim **22**, wherein said step of user inputting said identifying code includes user inputting said identifying code corresponding to a plurality of unique products.

25. The method according to claim **22**, wherein said step of user inputting said identifying code by machine recognition includes the processing of a scanned bar code by bar code detection circuitry.

26. The method according to claim **22**, wherein said step of user inputting said identifying code by machine recognition includes the processing of input data from an element selected from the group consisting of a keyboard, a keypad, a magnetic stripe reader, and a voice recognition circuit.

27. The method according to claim **22**, wherein said step of accumulating from said identifier database selected ones of said user-cognizable identifiers in said at least one list further comprises the step of reviewing said at least one list including said user-cognizable identifiers by said user at said user device.

28. The method according to claim **22**, wherein said step of accumulating from said identifier database selected ones of said user-cognizable identifiers in said at least one list further comprises the step of modifying said at least one list including said user-cognizable identifiers by said user at said user device.

29. The method according to claim **22**, wherein said step of storing in an identifier database is comprised of storing in an identifier database disposed within said user device.

30. The method according to claim **22**, wherein said identifier database is disposed in conjunction with said central computer.

31. The method according to claim **22**, wherein said step of storing a user-cognizable identifier includes storing a user-readable description of an item corresponding to said identifying code.

32. The method according to claim **31**, wherein said step of storing a user-readable description includes storing a unit price.

33. The method according to claim **31**, wherein said step of storing a user-readable description includes storing nutritional data.

34. The method according to claim **22**, wherein said step of storing a user-cognizable identifier includes storing a pictorial representation of an item corresponding to said identifying code.

35. The method according to claim **22**, wherein said step of selectively associating a transaction identifier comprises selectively associating data indicative of information necessary for accessing said selected merchant database by said user including user account number.

36. The method according to claim **35**, wherein said step of selectively associating a transaction identifier includes transmitting said user and/or merchant identifications from said user device over said communications link to said merchant database via said central computer.

37. The method according to claim **36**, wherein said step of selectively associating a transaction identifier includes transmitting user and/or merchant identifications from a transaction identifier selected by said user from a list of plural transaction identifiers stored within said user device.

38. The method according to claim **22**, wherein said step of selectively associating a transaction identifier includes selectively associating a transaction identifier disposed external to and independent from said user device.

39. The method according to claim **38**, wherein said step of selectively associating a transaction identifier includes selectively associating a transaction identifier with said user device via machine recognition of said user and/or merchant identifications.

40. The method according to claim **39**, wherein said step of selectively associating a transaction identifier via machine recognition of said user and/or merchant identifications is executed by bar code detection and analysis circuitry.

41. The method according to claim **22**, wherein said step of commanding said user device comprises user establishment of said communication by selecting a user-responsive element associated with said user device.

42. The method according to claim **41**, wherein said step of user establishment of said communication comprises selecting a region on a touch-sensitive display disposed within said user device.

43. The method according to claim **41**, wherein said step of user establishment of said communication comprises selecting a function key disposed on said user device.

44. The method according to claim **22**, wherein said step of passing transaction specific information further includes passing advertising and promotional information supplied by said selected merchant database to said user device.

45. A remote ordering system for processing at least one order list of at least one user-selected item to be ordered, each said item having a corresponding item code, said system comprising:

a central inventory database;

a user-specific database of user-discernable item data corresponding to said item codes;

central processing means for providing remote communication over a multi-user network between said central inventory database and said user-specific database in response to a user action for teaching user-discernable item data received from said central inventory database to said user-specific database, for interactively updating said user-discernable item data contained within said user-specific database with replacement user-discernable item data received from said central inventory database in response to a user action, and for aging-out infrequently accessed user-discernable item data from said user-specific database;

memory means in communication with said central processing means and thus to said user-specific database for maintaining said at least one order list; and

an order device associated with said user-specific database, in communication with said central inventory database via said central processing means and said multi-user network, and responsive to user input, said order device comprising:

communication means for interfacing said order device with said central processing means;

identifier means for providing said remote ordering system with user and/or merchant information;

input means for providing said order service with said item codes corresponding to said at least one user-selected item to be ordered;

a display in communication with said memory means and said central processing means for providing order pertinent information, including said user-discernable item data, to a user; and

management means for controlling said display and said communication means, said management means responsive to said user input and said central processing means,

wherein said user-discernable item data to be taught and said replacement user-discernable item data correspond only to said at least one user-selected item to be ordered of said at least one order list and are interactively receivable as a result of said central processing means, responding to said user input at said order device, transmitting to said central inventory database said at least one order list comprising a list of items to be ordered or a provisional list of items for which updated user-discernable item data is desired.

46. The system according to claim **45**, wherein each said user-discernable item code corresponds to a plurality of unique products.

47. The system according to claim **45**, wherein each said item code is comprised of a bar code.

48. The system according to claim **47**, wherein said input means comprises a bar code reader and bar code detection circuitry.

49. The system according to claim **45**, wherein said central inventory database comprises said user-discernable item data.

50. The system according to claim **45**, wherein said central inventory database comprises promotional information to be communicated to said order device.

51. The system according to claim **45**, wherein said central inventory database is physically disposed within said central processing means.

52. The system according to claim **45**, wherein said user-specific database is physically disposed within said central processing means.

53. The system according to claim **45**, wherein said user-specific database is physically disposed within said order device.

54. The system according to claim **45**, wherein said user-discernable item data includes a user-readable description of an item corresponding to an item code.

55. The system according to claim **54**, wherein said user-readable description includes a unit price.

56. The system according to claim **54**, wherein said user-readable description includes nutritional data.

57. The system according to claim **45**, wherein said user-discernable item data includes a pictorial representation of an item corresponding to an item code.

58. The system according to claim **45**, wherein said user-discernable item data is taught to said user-specific database if said user-discernable item data has not been previously taught to said user-specific database.

59. The system according to claim **45**, wherein said user-discernable item data within said user-specific database is updated if said user-discernable item data within said user-specific database is not identical to said user-discernable item data from said central inventory database.

60. The system according to claim **45**, wherein said infrequently accessed user-discernable item data is aged out of said user-specific database when said user-specific database has reached a predetermined capacity.

61. The system according to claim **45**, wherein said central processing means further provides promotional information from said central inventory database to said user-specific database.

62. The system according to claim **45**, wherein said memory means is disposed within said order device.

63. The system according to claim **45**, wherein said memory means is disposed within said central processing means.

64. The system according to claim **45**, wherein said at least one order list further includes at least one interim list currently being compiled by a user, said at least one interim list being accessible for review and modification at said order device.

65. The system according to claim **45**, wherein said identifier means comprise data indicative of information necessary for accessing said central inventory database by a user including a user account number.

66. The system according to claim **45**, wherein said identifier means are disposed within said order device.

67. The system according to claim **66**, wherein said identifier means are selectable by said user from a list of said identifier means stored within said order device.

68. The system according to claim **45**, wherein said indentifier means are disposed external to and independent from said order device.

69. The system according to claim **68**, wherein said identifier means are selectively associated with said order device via machine recognition of said identifier means.

70. The system according to claim **69**, wherein said machine recognition of said identifier means is executed by bar code detection and analysis circuitry.

71. The system according to claim **45**, wherein said display further provides promotional information to a user.

72. The system according to claim **45**, wherein said order device further comprises at least one user-responsive element.

73. The system according to claim **72**, wherein said display is a touch-sensitive display, and

wherein said at least one user-responsive element comprises a region on said touch-sensitive display.

74. The system according to claim **72**, wherein said at least one user-responsive element comprises a function key disposed on said order device.

75. The system according to claim **72**, wherein said at least one user-responsive element comprises an external pointing device.

* * * * *

CERTIFICATE OF FILING AND SERVICE

I hereby certify that on December 1, 2016, I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Federal Circuit by using the appellate CM/ECF system.

I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the appellate CM/ECF system.

I further certify that, upon acceptance and request from the Court, the required paper copies of the foregoing will be shipped via overnight delivery to the Clerk, United States Court of Appeals for the Federal Circuit, 717 Madison Place, N.W., Washington, D.C. 20439.

Dated: December 1, 2016

/s/ *Paul A. Kroeger*

Brian D. Ledahl
bledahl@raklaw.com
Larry C. Russ
lruss@raklaw.com
Paul A. Kroeger
pkroeger@raklaw.com
RUSS AUGUST & KABAT
12424 Wilshire Boulevard, 12th Floor
Los Angeles, California 90025
Telephone: (310) 826-7474
Facsimile: (310) 826-6991

Counsel for Plaintiff-Appellant
Cronos Technologies, LLC

CERTIFICATE OF COMPLIANCE

Pursuant to Federal Rules of Appellate Procedure 28.1(e)(3) and 32(a)(7)(C), the undersigned hereby certifies that this brief complies with the type-volume limitation of Federal Rule of Appellate Procedure 28.1(e)(2)(B)(i).

1. This brief complies with the type-volume limitation of Fed. R. App. P. 32(a)(7)(B) and Federal Circuit Rule 32(b) because this brief contains 8,740 words, excluding the parts of the brief exempted by Federal Circuit Rule 32(b)(1)-(3).

2. This brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6) because this brief has been prepared in a proportionally spaced typeface using Microsoft Word for Mac 2011 in 14-point Times New Roman Font.

Dated: December 1, 2016

/s/ *Paul A. Kroeger*

Brian D. Ledahl
bledahl@raklaw.com
Larry C. Russ
lruss@raklaw.com
Paul A. Kroeger
pkroeger@raklaw.com
RUSS AUGUST & KABAT
12424 Wilshire Boulevard, 12th Floor
Los Angeles, California 90025
Telephone: (310) 826-7474
Facsimile: (310) 826-6991

Counsel for Plaintiff-Appellant
Cronos Technologies, LLC